

# **WATERBURY BOARD OF EDUCATION**

## **Special Meeting**

Thursday, April 21, 2022 at 5:30 p.m.

Virtual Meeting via ZOOM

*This meeting will be held solely by electronic equipment in accordance with Public Act No. 21-2 and will be broadcasted live on the City of Waterbury's Government Access Channel (Comcast Channel 96, Frontier Channel 6096), and streamed live at <https://youtu.be/bWIZN3ixx3M>*

### **1. Silent Prayer**

### **2. Pledge of Allegiance to the Flag**

### **3. Roll Call**

### **4. Committee on Finance – Commissioner Orso**

- 4.1 Request approval of a Professional Services Agreement with Linguistica International for Phone and/or Video On-Demand Translation Services.
- 4.2 Request approval of a Professional Services Agreement with Themes and Variations, Inc., for Themes and Variations MusicplayOnline.com Subscription.
- 4.3 Request approval of a Professional Services Agreement with David Edward Therault Studios, LLC, for Digital Recording Services.
- 4.4 Request approval of an Agreement with Environmental Systems for school security video surveillance and access.
- 4.5 Request approval of an Agreement with Comcast Cable Communications Management, LLC for Comcast Voucher Program.
- 4.6 Request approval of a Professional Services Agreement with Polar Electro, Inc. for Heart Rate Monitoring System.

### **Adjournment**

# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.1

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve a Professional Services Agreement with Linguistica International to provide phone and/or video on demand translation services,

# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.2

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve a Professional Services Agreement with Themes and Variations, Inc., to provide Themes and Variations MusicplayOnline.com Subscription.

# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.3

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve a Professional Services Agreement with David Edward Therault Studios, LLC. to provide digital recording services at various City meetings.



# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.4

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve of a Contract with Environmental Systems Corp. for school security video surveillance and access control system expansions and upgrades at various schools.

## **Memorandum**

To: Board of Aldermen

From: Will Zhuta, Director of Technology, Department of Education  
Dan Barry, Director of Security, Department of Education

Date: March 31, 2022

Re: **Board of Education and Board of Aldermen Approval Request / Executive Summary -**  
Contract for School Security Video Surveillance and Access Control

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The Department of Education Computer Technology Center respectfully requests your approval of the above-referenced \$ **1,868,892.76** contract for School Security Video Surveillance and Access Control between the City of Waterbury and Environmental Systems Corporation.

This contract was initiated under the Request for Proposal (**RFP #7221**). There were three bidders for this project with Environmental Systems Corporation, Inc., the most qualified responsible bidder.

This contract will allow the Waterbury Public Schools to work with a certified integrator who can meet the complex requirements of the current school security system. The integrator will design, install, train, and provide three years of support to the following 15 schools: **Adult Education, Bucks Hill Elementary, Wilson Elementary, Walsh Elementary, Bunker Hill Elementary, Maloney Magnet School, Sprague Elementary, Tinker Elementary, Gilmartin Pre-K – 8 School, Enlightenment School, Wilby High School, Crosby High School, Generali Elementary School, Reed Pre-K- 8 School, and Waterbury Arts Magnet School.**

The School Security Video Surveillance and Access Control system will consist of a new Milestone network digital video recording servers which will integrate with the WTBYPD, door access controllers, door nodes and strikes, Axis digital cameras, and new front door video entry systems.

Accordingly, attached for your review and consideration are 11 copies of the proposed contract, plus the Vendor Award letter as prepared by the Purchasing Department, the Successful Bidder's Bid Form and Disclosure and Certification of Obligations Affidavit Regarding Outstanding Obligation, plus a copy of the Tax Clearance issued by the Office of Tax Collections.

Please note that one complete set of Documents, including Contracts, Plans, and Specifications, has been placed on file with the City Clerk's Office.

Thank you.

**CONTRACT (RFP #7221)**  
**for**  
**School Security Video Surveillance &**  
**Access Control System Expansions and Upgrades**  
**between**  
**City of Waterbury**  
**and**  
**Environmental Systems Corp.**

**THIS CONTRACT (the “Agreement”** effective on the date signed by the Mayor, is by and between the CITY OF WATERBURY (the “City”), located at City Hall, 235 Grand Street, Waterbury, Connecticut 06702 and Environmental Systems Corp. (“Contractor” or “ESC”) with a principal business location at 18 Jansen Court, West Hartford, Connecticut 06110, a State of Connecticut duly registered domestic corporation (jointly referred to as the "Parties" to the Agreement).

**WHEREAS**, the City applied for, and was awarded, grant funding under the “School Security Competitive Grant Program” (DEMHS Grant # 018S151A) from the State of Connecticut Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security, as described in the “Revised Notice of Grant Award,” revised on January 12, 2021 (attached hereto in Attachment A); and

**WHEREAS**, the Contractor submitted a proposal to the City in response to Request for Proposal (“RFP”) Number 7221 for School Security Video Surveillance & Access Control System Expansions and Upgrades; and

**WHEREAS**, the City selected the Contractor to perform the services regarding RFP No. 7221; and

**WHEREAS**, the City desires to obtain the Contractor's services for pursuant to the terms, conditions and provisions set forth in this Contract (the “Project”).

**NOW THEREFORE, THE PARTIES AGREE AND COVENANT AS FOLLOWS:**

**1. Scope of Services.** The Contractor shall furnish all of the labor, services, equipment, materials, supplies, transportation, and incidentals necessary to complete the Project as specified in this Agreement and such shall be completed in a satisfactory manner, as reasonably determined by the City. All labor, services, equipment, materials, supplies, transportation, and incidentals shall comply with **(i)** any and all applicable local, state and federal laws, statutes, ordinances, rules and regulations, including without limitation all notice requirements thereunder, and **(ii)** generally accepted professional standards.

**1.1.** The Project consists of, and the Contractor shall provide, all materials, equipment, labor, installation, and services for the School Security Video Surveillance & Access

Control System Expansions and Upgrades Project at the following Waterbury Public Schools (WPS):

| SCHOOL                          | ADDRESS                | Type               |
|---------------------------------|------------------------|--------------------|
| Adult Education                 | 11 Draher Street       | Pre-K - 8 School   |
| Bucks Hill School               | 330 Bucks Hill Road    | Elementary School  |
| Bunker Hill School              | 170 Bunker Hill Avenue | Elementary School  |
| Crosby High School              | 300 Pierpont Rd        | High School        |
| Enlightenment School            | 58 Griggs Street       | Special Program    |
| Generali School                 | 3196 East Main Street  | Elementary School  |
| Gilmartin School                | 94 Spring Lake Road    | Pre-K - 8 School   |
| Maloney School                  | 233 South Elm Street   | Elementary School  |
| Reed School                     | 33 Griggs Street       | Pre-K - 8 School   |
| Sprague School                  | 1448 Thomaston Avenue  | Elementary School  |
| Tinker School                   | 809 Highland Avenue    | Elementary School  |
| Walsh School                    | 55 Dikeman Street      | Elementary School  |
| Wilby High School               | 460 Bucks Hill Road    | High School        |
| Wilson School                   | 235 Birch Street       | Elementary School  |
| Waterbury Arts<br>Magnet School | 16 South Elm Street    | Middle/High School |

The Project consists of, but is not limited to, Training of Central Office and the Administration of each school on the use of each security and camera system. The Contractor will also furnish Milestone Video Surveillance Systems and S2 Access Control Systems, including all required cabling, testing, system configuration and work within data rooms, door modifications, installation, coring, and cabling for security, and cameras, programming of pathways, warranties, etc., and all necessary work, services, and parts to be provided and supplied as detailed and described in the RFP/Proposal Documents in **Attachment A** and are hereby made material provisions of this Contract. **Attachment A** shall consist of the following, which are attached hereto, are acknowledged by the Contractor as having been received, or otherwise hereby incorporated by reference as noted below, and all are made a part hereof:

- 1.1.1 RFP No. 7221, consisting of 12 pages (attached hereto);
- 1.1.2 Addendum #1 to RFP No. 7221, dated March 25, 2022, consisting of 2 pages (attached hereto);
- 1.1.3 Contractor's Price Proposal, dated March 31, 2022, consisting of 4 pages (attached hereto);
- 1.1.4 "Scope of Services" (attachment F to RFP No. 7221), consisting of 123 pages, and including the following project specifications, drawings, and equipment specifications:
  - 1.1.4.1 "Pathways for Security Systems," section 28 05 28, consisting of 12 pages (attached hereto);
  - 1.1.4.2 "Video Surveillance System," section 28 23 00, consisting of 16 pages; (attached hereto);

- 1.1.4.3** “Access Control System,” section 28 13 00, consisting of 23 pages; (attached hereto);
  - 1.1.4.4** “School Security Drawings,” consisting of 28 pages (attached hereto and as otherwise incorporated by reference);
  - 1.1.4.5** “Existing Analog/Digital Cameras Per School,” consisting of 2 pages (attached hereto);
  - 1.1.4.6** “Waterbury New Bid Equipment List,” consisting of 1 page (attached hereto);
  - 1.1.4.7** “Communication Horizontal Cabling,” section 27 15 00, consisting of 16 pages (attached hereto);
  - 1.1.4.8** “Door Hardware Sets,” section 080671, consisting of 6 pages (attached hereto);
  - 1.1.4.9** “Hollow Metal Doors and Frames,” section 081113, consisting of 10 pages (attached hereto);
  - 1.1.4.10** “Security Conductors & Cables,” section 28 05 00, consisting of 5 pages (attached hereto);
  - 1.1.4.11** “Seneca Certainty 400 Series” and “Seneca Assurance 300 Series” Server Specifications, consisting of 4 pages (attached hereto);
- 1.1.5** Contractor’s Qualification Statement, consisting of 4 pages (attached hereto);
- 1.1.6** Contractor’s Commission on Human Rights and Opportunities documentation, consisting of 5 pages (attached hereto and as otherwise incorporated by reference);
- 1.1.7** “Good Jobs Ordinance” City of Waterbury Ordinance “Chapter 34: City Policy, ‘Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects,’” consisting of 7 pages (attached hereto);
- 1.1.8** State Prevailing Wage Documentation, consisting of 10 pages (attached hereto);
- 1.1.9** Any and all amendment(s) and Change Orders, issued by the City after execution of Contract (incorporated by reference);
- 1.1.10** City Contract Compliance Documents (Stockholder’s Affidavit; Non-Collusion Affidavit; Debarment Certificate) (incorporated by reference);
- 1.1.1** Certificates of Insurance (incorporated by reference);
- 1.1.2** Contractor’s Payment and performance Bonds (incorporated by reference);
- 1.1.3** State of Connecticut Department of Emergency Services and Public “Revised Notice of Grant Award” from the Protection, Division of Emergency Management and Homeland Security, revised on January 12, 2021, DEMHS Grant # 018S151A, consisting of 2 pages (attached hereto);
- 1.1.4** Licenses and Certifications, including State of Connecticut Department of Administrative Services Prequalification Construction Contractor certificate (incorporated by reference);
- 1.1.5** All applicable Federal, State, and local statutes, regulations charter and ordinances (incorporated by reference);

**1.2.** The entirety of **Attachment A** plus this executed instrument are together deemed the Contract Documents (hereinafter collectively referred to as "Contract Documents"). The City's record copy of the Contract Documents shall control and shall be effective and binding on the Contractor. In the event that any provision in the Contract Documents conflict with any other provision therein, the provision in the component part of the Contract Document first enumerated below shall govern over any other component part which follows it numerically.

**1.2.1** Federal, State, and local laws, regulations, charter and ordinances

**1.2.2** Contract Amendment(s) and Change Orders

**1.2.3** This Contract

**1.2.4** Scope of Services, including all technical specifications and drawings, (attachment F to RFP No. 7221)

**1.2.5** City's RFP No. 7221

**1.2.6** Contractor's Price Proposal

**2. Representations Regarding Qualification and Accreditation.** The Contractor represents that its employees are licensed to perform the scope of work set forth in this Contract. The Contractor further represents that its employees have the requisite skill, expertise and knowledge necessary to perform the scope of work required under the terms of this Contract, including any supplementary work and the City relies upon Contractor's representations.

**2.1. Representations regarding Personnel.** The Contractor represents that it has, or will secure at its own expense, all personnel required to perform the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the City, unless use of City employees or of personnel having a contractual relationship with the City is approved in writing. As set forth above, all the services required hereunder shall be performed by the Contractor or under its supervision and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under state or local law to perform such services.

**2.2. Representations regarding Qualifications.** The Contractor hereby represents that, to the extent required by Federal, State and Local statutes, regulations, codes, ordinances, and policies, that the Contractor and/or its employees be licensed, certified, registered, or otherwise qualified, the Contractor and all employees providing services under this Contract, are in full compliance with those statutes, regulations and ordinances. Upon City request, the Contractor shall provide to the City a copy of the Contractor's licenses, certifications, registrations, etc.

**2.3. Activities, Work, and Services Performed in Department of Education Facilities, on School Grounds, at Student Sporting Events, and/or where City Students Present.** For all activities in school facilities and/or Department of Education facilities, the Contractor shall first be required to coordinate all on-site visits and activities with the appropriate Department/personnel in Education, or the designated person and shall obtain any necessary clearance, ID badges, etc.

**2.4. Criminal Background Check and DCF Registry Check.** The Contractor shall ensure, and represents to the City, that any employee who will be on school grounds/Department of Education Property/at Department of Education events and/or where City Students Present, that will or may have direct contact with a Student pursuant to this Agreement has stated, in writing, whether such person has ever been convicted of a crime or whether criminal charges were ever pending against such person. The Contractor shall further ensure, and represents to the City that any person who will have direct contact with a Student has submitted to a records check of the Department of Children and Families child abuse and neglect registry established pursuant to Conn. Gen. Stat. §17a-101k, as well as state and national criminal history records checks conducted in accordance with Conn. Gen. Stat. §29-17a, the federal National Child Protection Act of 1993, and the federal Volunteers for Children Act of 1998. The Contractor shall not permit any person with a disqualifying criminal history to have direct contact with a student.

**2.5. Activities, Work, and Services Performed on other City Property (Non-Education facilities).** For all activities involving non-Board of Education facilities and/or buildings, Contractor shall first be required to coordinate all on-site visits and activities with the appropriate City Department or its designee.

**3. Responsibilities of the Contractor.** In addition to the above requirements of Section 2, the Contractor agrees to properly implement the services required in the manner herein provided. The Contractor shall, in addition to any other responsibilities set forth in this Contract and the Schedules and Attachments hereto, perform the following coincident with the performance of this Contract:

**3.1. Due Diligence Obligation.** The Contractor acknowledges its responsibilities to examine and to be thoroughly familiar with the City's RFP documents, including, but not limited to the plans, specifications, drawings and any addenda thereto. The Contractor hereby warrants and represents that prior to the submission of its proposal during the RFP process it reviewed or was afforded opportunity, by the City, to review all physical items, facilities, services and functions essential to the satisfactory performance of the services required ("Due Diligence") and thereby certifies that all such items facilities, services and functions are included in this Contract and thereby warrants that:

**3.1.1** it conducted or had opportunity to conduct all due diligence prior to the submission of its Proposal and, accordingly, any additional costs, services or products resulting from the failure of the Contractor to complete Due Diligence prior to submission of its Proposal shall be borne by the Contractor. Furthermore, the Contractor had the opportunity during the RFP process to ask questions it saw fit and to review the responses from the City;

**3.1.2** its failure or omission to make investigation and verification of data shall, in no way, be cause for future claim of ignorance of such data or conditions nor shall such failure to investigate and verify be the basis for any claim whatsoever, monetary or otherwise;

**3.1.3** it is solely responsible for resolving any issues resulting from its failure to conduct due diligence and it shall assume any and all resulting costs it incurs during the Project;

**3.1.4** it was responsible for specifying any changes and disclosing any associated new costs prior to submittal of its Proposal. In the event the Contractor failed to disclose any such new cost prior to the submittal of its Proposal, the Contractor hereby covenants that it shall remain solely responsible for, and shall absorb, those non-disclosed costs;

**3.1.5** it has familiarized itself with the nature and extent of the Contract Documents, Project, locality, and with all local conditions and Federal, State and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Project;

**3.1.6** it has given the City written notice of any conflict, error or discrepancy that the Contractor discovered in the City's RFP documents and other documents for **RFP Number 7221** (collectively "RFP Documents");

**3.1.7.** it agrees that the RFP Documents and Proposal documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Project;

**3.1.8.** it has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Scope of Services which were utilized in the preparation of the plans and specifications;

**3.1.9** it has made or caused to be made examinations, investigations, measurements and tests and studies of any applicable reports and related data as it deems necessary for ensuring performance of the Scope of Services at the Contract Price within the Contract Time and in accordance with the other terms and conditions of the Contracts; and certifies no additional examinations, investigations, tests, reports or similar data are or will be required by Contractor for such purposes; and

**3.1.10** The Contractor shall not take advantage of any obvious error or apparent discrepancy in the Contract. Notice of any error or discrepancy discovered shall be given immediately in writing to the City, who shall make such corrections and interpretations as it may deem necessary for the completion of the Project in a satisfactory and acceptable manner.

**3.2. Safety.** Contractor shall perform all work in a safe manner in full compliance with local, state and federal health and safety regulations. Contractor shall immediately correct any dangerous condition caused by or resulting from its work. If it fails to correct, or to act diligently to correct, any condition which the City reasonably believes to be a hazard to persons or property, then immediately upon oral or written notice to any



supervisory or similar personnel of Contractor, City may, but shall not be required to, correct same at Contractor's expense. City shall confirm in writing any oral notice given within five (5) business days thereafter.

**3.3. Storage.** In the event the Project site has insufficient, inadequate, and/or improper storage space, it shall be the responsibility of the Contractor to secure, provide and maintain at the Contractor's sole cost and expense **(i)** adequate off-site storage space for equipment, materials, incidentals, etc., and **(ii)** all associated delivery and transportation services. In either event, the Contractor shall assume full responsibility for equipment, materials, incidentals, etc. until both title and risk of loss pass to the City pursuant to Section 8 of this Contract.

**3.4. Working Hours.** To the extent the Contractor is required to be on City property to render the Contractor's services hereunder, the Contractor shall coordinate its schedule so that work on and at the Project site is performed during the hours specified in **Attachment A** or as otherwise may be agreed to with prior written permission obtained from the City to work during other times. This provision shall not excuse the Contractor from timely performance under the Contract.

**3.5. Cleaning Up.** The Contractor shall at all times keep the Project site free from accumulation of waste materials or rubbish caused by Contractor's employees or subcontractors, and at the completion of the work shall remove all rubbish from and about the Project and all tools, scaffolding and surplus materials and shall leave the Project site "broom clean" or its equivalent, unless more exactly specified. In case of dispute, the City may remove the rubbish and charge the cost to the Contractor.

**3.6. Publicity.** Contractor agrees not to deliberately disclose the fact that the City has entered into or terminated this Contract or disclose any of the terms of the Contract or use the City's name in connection with any publicity, unless the City gives prior written consent to such use of the City's name in each instance.

**3.7. Standard of Performance.** All Contractor labor, materials, supplies, components, equipment, reports, plans, specifications, drawings, deliverables, incidentals, etc., required to be furnished or delivered under this Contract shall conform in all respects with the requirements set forth in this Contract and shall meet or exceed those standards generally recognized in the Contractor's craft and trade in the State of Connecticut. City specified manufacturer and/or brand name substitution desired by the Contractor shall be made only with the prior written consent of an authorized representative of the City's Using Agency.

**3.7.1** In carrying out the Project, the Contractor must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor, nor with the normal routine of the institution or agency operating at the Project site.

**3.8. Contractor's Employees.** The Contractor shall at all times enforce strict discipline and good order among its employees, and shall not employ on the work any

unfit person or anyone not skilled in the work assigned. The Contractor shall not, without the prior written approval of the City's Using Agency, substitute, terminate, replace or otherwise remove any Contractor employee expressly named, identified or required in this Contract. All employees must comply (and be in compliance) with the provisos of Section 2 of this Agreement

**3.9. Subsurface/Unknown Site Conditions.** If Project site conditions are encountered which are (i) subsurface or otherwise concealed physical conditions or other conditions which differ materially from those indicated in the Contract Documents, or (ii) unknown conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent or common in construction activities of the character provided for in this Contract, then prompt notice by the observing party shall be given to the other party to this Contract before Project site conditions may be disturbed. The Contractor shall thereafter wait for written instructions from the City before proceeding with regard to such conditions.

**3.10. Surveys.** All surveys required under this Contract shall be performed by a State of Connecticut duly licensed land surveyor. Unless expressly stated to the contrary in Section 1 of this Contract and **Attachment A**, the Contractor shall perform all layout work, all field measurements and all construction staking required, necessary or prudent for the satisfactory prosecution of the Contractor's obligations under this Contract.

**3.11. Permits and Licenses.** Unless expressly stated to the contrary in Section 1 of this Contract and/or **Attachment A**, the Contractor shall secure and obtain all permits and all licenses required, or necessary, or prudent for the performance of the Contractor's obligations under this Contract, and for the City's occupancy, use, and operation of the Project.

**3.12. Manufacturer's Directions.** Where it is required in this Contract that materials, products, processes, equipment or the like be installed or applied in accord with manufacturer's directions, specifications or instructions, it shall be construed to mean that the said application or installation by the Contractor shall be in strict accord with printed instructions furnished by the manufacturer of the material concerned for use under conditions similar to those at the Project site. One (1) copy of such instructions shall be furnished to the City.

**3.13. Review by the City.** The Contractor shall permit the City and the City's duly authorized representatives and agents to review, at any time, all work performed under the terms of this Contract at any stage of the Project.

**3.14. Records Maintenance.** The Contractor shall maintain or cause to be maintained all records, books or other documents relative to charges, costs, expenses, fees, alleged breaches of the Contract, settlement of claims or any other matter pertaining to the Contractor's demand for payment.

**4. Responsibilities of the City and City Reservation of Rights.** Upon the City's receipt of Contractor's written request for specific information, the City will provide the Contractor with existing documents, data and other materials the City agrees are necessary and appropriate to the services to be performed by the Contractor hereunder and the City will endeavor to secure, where feasible and where the City agrees it is necessary and appropriate, materials or information from other sources requested by the Contractor for the purpose of carrying out the services under this Contract.

**4.1.** The City may, in its sole discretion, designate person(s) to act as the City's Project Engineer(s) and/or Manager(s) and the City may, in its sole discretion, define such person(s) authority and responsibilities.

**4.2.** The City reserves the right to **(i)** perform work related or unrelated to the Project with the City's own forces adjoining, adjacent to, or in the vicinity of, the Project site and/or **(ii)** let separate contracts related or unrelated to the Project for work and services adjoining, adjacent to, or in the vicinity of, the Project site. In such event, the Contractor shall afford all such parties reasonable opportunity for storage of materials and equipment and for the uninterrupted provision and delivery of such parties' work and/or services. The Contractor shall cooperate with such parties and in the case of a dispute, the decision of the City shall be complied with by all.

**5. Contract Time.** The Contractor shall Substantially Complete all work and services required under this Contract within **Sixty (60) consecutive calendar days** of the City's written Notice to Proceed and shall reach Final Completion within **Ninety (90) consecutive calendar days** of the City's written Notice to Proceed ("Contract Time").

**5.1.** Within one (1) week of the City's issuance of its written notice to proceed, and prior to the commencement of any work on the Project site, the Contractor shall submit for the City's written approval a construction progress schedule (also may be referred to as "Project Schedule"). On a weekly basis, the Contractor shall deliver to the City a written status report setting forth an analysis and critique of the Contractor's compliance with said schedule.

**5.2. Delay Damages**

**5.2.1** Time is and shall be of the essence for all Project Phase Completion Dates, Milestones, Substantial and Final Completion Date. The Contractor further agrees that the Project shall be prosecuted regularly, diligently and uninterruptedly and at such rate of progress as will ensure full completion thereof within the Contract time stated above. It is expressly understood and agreed, by and between the Contractor and City, that the Phase Completion Dates, Milestones, Substantial and Final Completion Date are reasonable for the completion of the Project.

**5.2.1.1** The Contractor shall pay to the City the sum of the greater of **Five Hundred Dollars and Zero Dollars (\$500.00) per consecutive calendar day** for each and every calendar day for which the Contractor is in default in completing the work beyond the Final Completion Date,

Substantial Completion Date, Milestones and Phase Completion Dates, as set forth in Section 5, or the actual damages incurred by the City caused by the delay. The preceding sum is hereby agreed upon not as a penalty, but as delay damages for the delay that the City shall suffer due to such default.

**5.2.1.2** The City shall have the right to recover all damages pursuant to any remedy at law or equity including but not limited to deducting the amount of any such damages from any monies due the Contractor under this Contract. The Contractor understands that if the entire Work or of any portion of the Work that the City has agreed to accept separately, if any, is not attained by the applicable completion dates as set forth in the entire Section 5, the City will suffer damages, which are difficult to specify accurately and ascertain. Delay damages based upon delay shall be assessed to compensate the City for all actual loss sustained by the delay, including, but not limited to, loss of use, increased cost of material or services to complete the project, loss of State funding, all other another actual expense, and all other damages allowed by law, including attorney’s fees.

**5.3 No Damage for Delay**

In no event shall the Contractor be entitled to any compensation or recovery of any damages in connection with any Delay, including, without limitation, consequential damages, lost opportunity damages, attorney’s fees or other, similar remuneration. The City’s exercise of any of its rights or remedies under the Contract Documents, including without limitation, ordering changes in the Work, or directing suspension, rescheduling or correction of the Work, regardless of the extent or frequency of the City’s exercise of these rights has been contemplated by the parties and shall not be construed as an exception.

**6. Compensation.** The City shall compensate the Contractor for satisfactory provision of all of the goods and services set forth in this Contract as follows in this Section 6. No claims for additional compensation will be considered for conditions made known to the Contractor prior to bidding. No claims for additional compensation will be considered on account of failure of the Contractor to completely inform itself as required herein above.

**6.1. Fee Schedule.** Subject to retainage, limitations, etc. set forth below in this Section 6, the fee payable to the Contractor shall not exceed **One Million Eight Hundred Sixty-Eight Thousand Eight Hundred Ninety-Two Dollars and Seventy-Six Cents (\$1,868,892.76)** (hereafter referred to as "Total Compensation") with the basis for payment being Contractor’s Price Proposal set forth in Attachment A, dated March 31, 2022, and as summarized below:

**6.1.1** VSS and ACS system furnished and installed, including all upgrades and expansions, in all schools,  
Amount not to exceed..... **\$1,683,052.00**

|   |                       |
|---|-----------------------|
| <b>6.1.2 City Controlled Contingency*</b> |                       |
| Amount not to exceed.....                 | <b>\$185,840.76</b>   |
| <b>Total Compensation.....</b>            | <b>\$1,868,892.76</b> |

*\*The City Controlled Contingency, set forth above, shall only be used upon prior written approval from the City/Using Agency.*

**6.2. Retainage.** At the City's sole discretion, it hereby reserves the right to withhold as retainage five percent (5%) percent of any payment (or monetary sum otherwise required by law) owed to the Contractor to be withheld from payments to the Contractor otherwise payable to the Contractor until such time as the Contractor's work and services to be provided under this Contract are fully completed and accepted in writing by the City. The retainage does not include additional sums that the City may withhold due to the Contractor's failure to comply with the provisions of this Contract.

**6.3. Limitation of Payment.** Compensation to the Contractor is limited to those fees set forth in Section 6.1. of this Contract and is further limited to work **(i)** performed in fact, **(ii)** conforming with this Contract, and **(iii)** accepted in writing by a duly authorized City employee. Such compensation shall be paid by the City upon its review and approval of the Contractor’s invoices for payment and review of the Contractor’s work.

**6.3.1 Funding.** In the event this Contract is funded, in whole or in part, by Federal and/or State monies, grants, loans, etc, all City payment(s) shall fully comply with all relevant Federal and State statutes and regulations. In the event this Contract is 100% funded by Federal and/or State monies, grants, loans, etc., the aggregate sum of all City payments shall not exceed the aggregate sum of such funding.

**6.3.2** The Contractor and its affiliates are hereby provided with notice that the City reserves the right, in the City’s sole discretion, to offset, withhold, or otherwise reduce City payment(s) to the Contractor, in an amount equaling the sum or sums of money the Contractor and/or its affiliates is/are, or become delinquent or in arrears on, regarding the Vendor’s and/or its affiliates real and personal property taxes and other payment obligations to the City.

**6.4. Proposal Costs.** All costs of the Contractor in preparing its bid for **RFP Number 7221** shall be solely borne by the Contractor and are not included in the compensation to be paid by the City to the Contractor under this Contract or any other agreement.

**6.5. Payment for Services, Materials, Appliances, Employees.** The Contractor shall be responsible to the City for the suitability of services, materials and equipment furnished to comply fully with the requirements set forth in this Contract. The Contractor shall promptly pay all employees as their pay falls due, shall pay promptly as they fall due all bills for subcontractors, materials, supplies and services going into the work, and all bills for insurance, bonds, Worker's Compensation coverage, Federal and State Unemployment Compensation, and Social Security charges applicable to this Project.

Before final City payment is made, the Contractor shall furnish to the City a sworn, notarized, affidavit stating that all of the foregoing payment obligations have been fully completed.

**6.6. Liens.** Neither the City's final payment nor any part of the retained percentage, if any, shall become due until the Contractor, if required by the City, shall deliver to the City a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof, and, if required, in either case, an affidavit that so far as the Contractor has knowledge or information, the releases and receipts include all the labor and material for which a lien could be filed; but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the City, to indemnify it against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the City all moneys that the City may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

**6.7. Contractor's Certificate of Completion.** Upon the Contractor's **(i)** completion of all Project milestones, and **(ii)** Substantial Completion of the Project, and **(iii)** Final Completion of the Project, the Contractor shall, in each instance, file with the City a written, notarized affidavit setting forth the amount of Project work performed. The City reserves the right to verify or challenge by any reasonable means the accuracy of said affidavit.

**6.8. Final Payment.** All prior estimates and City payments, including those relating to extra or additional work, retainage(s), and holdback(s), shall be subject to correction by this final payment which is throughout this Contract called "Final Payment". No payment, final or partial, shall act as a release to the Contractor or its surety from any Contractor obligation(s) under this Contract.

**6.9. Clean Water Fund Project Requirements.** In the event this Contract is funded in whole or in part, is reliant upon, or falls within the jurisdiction of the Clean Water Fund and its statutes, regulations and rules, the Contractor shall:

**6.9.1** submit Applications for Payment in accordance with the following:

The City must receive the Contractor's Application for Payment by the City's or its designee's, review and recommendation for payment, by the fifteenth calendar day of the month to receive payment within the next 50 days. If not received by the fifteenth calendar day of the month, payment cannot be made until 50 days after the fifteenth calendar day of the subsequent month. The Contractor shall provide at the City's request, reasonable documentation to substantiate Contractor's Application for Payment.

**6.9.2** Progress and Final Payments

The City will make progress payments on account of the Contract Price on the basis of the Contractor's Applications for Payment, monthly during construction as provided below. All progress payments will be on the basis of the progress of the Scope of Services as determined by the City, according to the schedule of

values provided for in the Contract Documents, and approved by the City. Prior to Substantial Completion, progress payments will be limited to an amount equal to 95 percent of the value of the Scope of Services completed. Upon Substantial Completion, the City will pay the amount as specified in the Contract Documents.

**7. Warranty of the Contractor.** The Contractor warrants to the City that all materials, supplies, components, equipment, etc. furnished under this Contract shall be new and of good quality, except as otherwise expressly stated and permitted by the City elsewhere in this Contract. The Contractor warrants that none of its work shall be defective. The Contractor shall be liable to repair and install and/or replace without charge any service, component, equipment or part thereof which is defective or does not conform with this Contract within the greater of **(i)** 365 calendar days after the City delivers its written notice of its acceptance of the Project and statement therein establishing the final completion date, or **(ii)** that time period, warranty period, or date expressly stated elsewhere in this Contract or **Attachment A**.

**7.1.** The Contractor further warrants that all materials, supplies, services, components, equipment, reports, plans, drawings, deliverables, incidentals, etc., shall be free from any and all defects caused by faulty design, faulty material or poor workmanship. The Contractor shall supply to the City copies of any written manufacturer's warranties and guarantees. The Contractor's foregoing warranty obligations are in addition to, and not a limitation of, all manufacturer's warranties and guarantees, and any other remedy stated in this contract or otherwise available to the City under applicable law.

**8. Passing of Title and Risk of Loss.**

**8.1.** City beneficial use of Project equipment, materials, site-work, etc. prior to the Contractor's final completion of the Project or prior to the City's final payment for the Project shall neither act to vest title in the City nor act to transfer risk of loss from the Contractor to the City. Said title and risk shall pass to the City upon the City's final payment for the Project.

**8.2.** Contractor and its insurer shall assume the risks of loss or damage to the equipment up to and including the date title passes, except that City shall be responsible for loss or damage caused by City's gross negligence.

**8.3.** After Project equipment, materials, etc. are delivered to the Project work-site and become operable or functional, the Contractor shall not thereafter remove any such equipment, materials, etc. from the Project work-site without securing the prior written consent of an authorized City Using Agency employee.

**9. Indemnification.**

**9.1.** The Contractor shall indemnify, defend, and hold harmless the City, City's Boards, and Board of Education, commissions, agents, officials and employees from and against all claims, suits, damages, losses, judgments, costs and expenses including attorney's fees arising out of or resulting from the delivery of the labor, services,

equipment, materials, reports, plans, specifications, design, drawings, deliverables, incidentals, etc. provided that any such claims, suits, damages, losses, judgments, costs or expenses **(i)** are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting there from, **(ii)** are alleged to be caused in whole or in part by any willful, intentional, negligent, or reckless act or omission of the Contractor, its employees, any subcontractor or consultant, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder; **(iii)** enforcement action or any claim for breach of the Contractor's duties hereunder or **(iv)** claim for intangible loss(es) including but not limited to business losses, lost profits or revenue, regardless of whether or not it is caused in part by a party indemnified hereunder.

**9.2.** In any and all claims against the City, Board of Education or any of City's boards, agents, employees or officers by the Contractor or any employee of the Contractor, any subcontractor or consultant, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 9 above, shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under Worker's Compensation Acts, disability benefit acts or other employee benefit acts.

**9.3.** The Contractor understands and agrees that any insurance required by this Contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, defend, keep and hold harmless the City, the Board of Education, any of City's boards, agents, employees as provided in this Contract.

**9.4.** The Contractor expressly understands and agrees that any performance bond or insurance protection required by this Contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the City and the City's boards, agents, employees or officers as provided herein.

**9.5.** Royalties and Patents. The Contractor shall, for all time, secure to the City the free and undisputed right to the use of any and all patented articles and methods used in the work and shall defend at Contractor's own expense any and all suits for infringement or alleged infringement of such patents, and in the event of adverse award under patent suits, the Contractor shall pay such awards and hold the City harmless in connection with any patent suits that may arise as a result of installations made by the Contractor and as to any award made thereunder.

**9.6.** In the event this Contract and/or the Contractor's, or its subcontractor, work and services provisioned hereunder is/are subject to the provisions of any Federal or State statute or regulations, or the City Charter or City Ordinance, the Contractor shall indemnify, defend and hold harmless the City from any fine, penalty or other amounts imposed on the City under said statutes, regulations, Charter or Ordinances, if caused by Contractor, or its subcontractor, omission or commission.



**10. Contract Bonds.** The Contractor shall furnish to the City, prior to the execution of this Contract by the City, both a performance bond and a payment bond, each bond written for a penal sum equaling the Section 6 "Total Compensation" amount in a form and with a surety acceptable to the City. The bonds shall continue in effect for the greater of **(i)** the warranty period set forth in Section 7 of this Contract, or **(ii)** 365 calendar days after the Final Completion Date referenced elsewhere in this Contract.

**11. Contractor's Insurance.**

**11.1.** The Contractor shall not commence work under this Contract until all insurance required under this Section 11 has been obtained by the Contractor and such insurance has been approved by the City. The Contractor shall not allow any subcontractor to commence work on any subcontract until all insurance required of any such subcontractor has been so obtained and approved by the City. Insurance shall be provided by insurers, satisfactory to the City and authorized to do business in the State of Connecticut, an "A-" Best's Rating and at least a Class V3 or better financial size category as shown in the most current A.M. Best Company ratings.

**11.2.** At no additional cost to the City, the Contractor shall purchase and maintain the insurance coverages set forth below which shall protect the City from claims which may arise out of or result from the Contractor's obligation under this Contract, whether such obligations are the Contractor's or subcontractor or person or entity directly or indirectly employed by said Contractor or subcontractor, or by any person or entity for whose acts said Contractor or subcontractor may be liable.

**11.3.** Each insurance policy shall state that the insurance company shall agree to investigate and defend the insured against all claims for damages, even if groundless. If any insurance required herein is to be issued or renewed on a claims made form as opposed to an occurrence form, the retroactive date for coverage shall be no later than the commencement date of this Contract and shall provide that in the event of cancellation or non-renewal, the discovery period for insurance claims ("Tail Coverage") shall be available for at least 60 months.

**11.4.** The following policies with stated limits shall be maintained, in full force and effect, at all times during which the services are to be performed by the Contractor:

**11.4.1 General Liability Insurance:**

**\$1,000,000.00** per occurrence

**\$2,000,000.00** aggregate

**\$2,000,000.00** products /completed operations aggregate

Providing coverage to protect the City for all damages arising out of bodily injuries, sickness to or death of all persons in any one accident or occurrence and for all damages arising out of destruction of property in any one accident or occurrence.

**11.4.2 Automobile Liability Insurance:**

**\$1,000,000.00** combined single limit (CSL)

Providing coverage to protect the City with respect to claims for damage for bodily injury and or property damage arising out of ownership, maintenance, operation, use or loading and unloading of any auto including hired & non-owned autos.

**11.4.3 Workers' Compensation:**

Statutory Limits within the State of Connecticut: Employers' Liability:

EL Each Accident **\$1,000,000.00**

EL Disease Each Employee **\$1,000,000.00**

EL Disease Policy Limit **\$1,000,000.00**

Contractor shall comply with all State of Connecticut statutes as it relates to workers' compensation.

**11.4.4 Excess/Umbrella Liability Insurance:**

**\$1,000,000.00** each occurrence

**\$1,000,000.00** aggregate

Excess or Umbrella insurance coverage that follows form or sits over General Liability, Automobile Liability and Workers Compensation insurances.

**11.4.5 Cyber/Privacy/Network:**

**\$1,000,000.00**

**11.5. Failure to Maintain Insurance:** In the event the Contractor fails to maintain the minimum required coverage as set forth herein, the City may at its option purchase same, and offset the Contractor's invoices for the cost of said insurance.

**11.6. Cancellation:** The City of Waterbury shall receive written notice of cancellation from the Contractor at least thirty (30) calendar days prior to the date of actual cancellation, regardless of the reason for such cancellation.

**11.7. Certificates of Insurance:** The Contractor's General, Automobile, Builder's Risk and Excess/Umbrella Liability Insurance policies shall be endorsed to add the City and its Board of Education as an additional insured and provide waiver of subrogation on all policies except Builder's Risk and Pollution Liability. The insurance afforded the additional insured shall be primary and non-contributory insurance and the coverage and limits provided under the Contractor's policies shall not be reduced or prorated by the existence of any other insurance applicable to any loss the additional insured may have suffered. Prior to the execution of this Contract by the City, the Contractor shall furnish to the City, subject to City approval, certificate(s) of insurance and Additional Insured Endorsement and Waiver of Subrogation Endorsement verifying the above coverages, including the naming of the City of Waterbury, as follows: **"The City of Waterbury and Waterbury Board of Education are listed as additional insured on a primary and non-contributory basis on all lines of coverage except Workers' Compensation. All policies shall include a Waiver of Subrogation."** The City's Request for Proposal Number must be shown on the certificate of insurance to assure correct filing. The Contractor must supply replacement/renewal certificates at least 30 days prior to the expiration of the policy(ies). Said certificates shall contain a provision that coverage

afforded under the policies shall not be cancelled or reduced for any reasons unless notice of than thirty (30) calendar days has been mailed to the City's Using Agency and a copy to the City's Office of Corporation Counsel, 235 Grand Street, Waterbury, CT 06702.

**11.8.** No later than thirty (30) calendar days after Contractor receipt, the Contractor shall deliver to the City a copy of the Contractor's insurance policies and endorsements and riders.

**12. Conformance with Federal, State and Other Jurisdictional Requirements.** By executing this Contract, the Contractor represents and warrants that, at all pertinent and relevant times to the Contract, it has been, is and will continue to be in full compliance with all applicable statutes, acts, ordinances, guidelines, resolutions, orders, judgments, decrees, injunctions, rules, and regulations of all government authorities applicable to performance by the Contractor of services hereunder, including those having jurisdiction over its registration and licensing to perform services hereunder; including, but not limited to, the following: EQUAL EMPLOYMENT OPPORTUNITY; COPELAND ANTI-KICKBACK ACT, as supplemented in the Department of Labor Regulations (29 CFR, Part 3); DAVIS BACON ACT as supplemented by Department of Labor Regulations (29 CFR Part 5); Section 103 and 107 of the Contract Work Hours and Safety Standards Act, as supplemented by the Department of Labor Regulations (29 CFR Part 5); the HOUSING and COMMUNITY DEVELOPMENT ACT of 1974, as amended; TITLE 31 and Section 12-430(7) of the State of Connecticut General Statutes. All applicable sections of the City Charter and Code of Ordinances are incorporated by reference made a part hereof.

**12.1. Taxes-Federal, State and Local.** The City is exempt from Federal Excise and Transportation, State and Local Sales and Use Taxes, including without limitation, taxes that would otherwise be imposed upon the Contractor for transactions required or necessitated hereunder between it and its subcontractors, suppliers, etc. The Contractor remains liable, however, for any applicable tax obligations it incurs. Moreover, the Contractor represents that the RFP Response and pricing contained in this Contract do not include the amount payable for said taxes.

**12.2. Labor and Wages-Federal and State.** The Contractor and its subcontractors shall conform to Federal and State of Connecticut labor laws, and all other laws, ordinances, and legal requirements affecting the work in Connecticut.

**12.2.1** The Contractor is aware of, and shall comply with, the provisions of Title 31, §53 of the Connecticut General Statutes, latest revision (the "Act"), concerning the payment of minimum wages for work on public facilities. The provisions of the Act are hereby incorporated by reference and made a part of this Contract. The Act provides that the Connecticut prevailing wage law applies to certain remodeling, refurbishing, alteration, repair and new construction. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in Conn.Gen.Statute 31-53(i), shall be at a rate equal to the rate customary or prevailing for the same work in the same

trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

**12.2.2** The Contractor is aware of, and shall comply with, the provisions of both the Federal Davis-Bacon Act and the Federal American Recovery and Reinvestment Act of 2009, the provisions of both acts hereby incorporated by reference and made a part of this Contract. The Federal Davis-Bacon Act provides that Federal wage rate laws apply to certain federally funded contracts. The American Recovery and Reinvestment Act ("ARRA") provides that Federal wage rate laws apply to all ARRA funded contracts regardless of the contract's dollar value.

**12.3. Compliance with Chapters 34, 38, and 39 of the Code of Ordinances of the City.** By executing this Contract, the Contractor represents and warrants that, at all pertinent and relevant times to the Contract, it has been, is and will continue to be in full compliance with the provisions of Chapters 34, 38, and 39 of the Code of Ordinances of the City and well as any other relevant provisions of the Charter and the Code of Ordinances.

**12.4. Compliance with CONN. GEN. STAT. § 4a-60g, as amended by June 2015 Special Session Public Act 15-5.**

**12.4.1** Definitions – For purposes of this paragraph:

**i.** "Small contractor" means any contractor, subcontractor, manufacturer, service company or nonprofit corporation (A) that maintains its principal place of business in the state, (B) that had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year prior to such application, and (C) that is independent. "Small contractor" does not include any person who is affiliated with another person if both persons considered together have a gross revenue exceeding fifteen million dollars.

**ii.** "Minority business enterprise" means any small contractor (A) fifty-one per cent or more of the capital stock, if any, or assets of which are owned by a person or persons who (i) exercise operational authority over the daily affairs of the enterprise, (ii) have the power to direct the management and policies and receive the beneficial interest of the enterprise, (iii) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, and (iv) are members of a minority, as such term is defined in subsection (a) of section 32-9n, or are individuals with a disability, or (B) which is a nonprofit corporation in which fifty-one per cent or more of the persons who (i) exercise operational authority over the enterprise, (ii) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, (iii) have the power to direct the

management and policies of the enterprise, and (iv) are members of a minority, as defined in this subsection, or are individuals with a disability.

**iii.** "Municipal public works contract" means that portion of an agreement entered into on or after October 1, 2015, between any individual, Contractor or corporation and a municipality for the construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees but excluding any project of an alliance district, as defined in section 10-262u, as amended by this act, financed by state funding in an amount equal to fifty thousand dollars or less.

**12.4.2** The Contractor and subcontractor shall comply with the specific requirements of the State of Connecticut Set Aside Program, CONN. GEN. STAT. § 4a-60g, as amended by June 2015 Special Session Public Act 15-5, if the municipal public works contract awarded to the Contractor is funded in whole or in part by state funds.

**12.4.3** The Contractor shall be subject to the following set-aside requirements if the municipal public works contract, is funded in whole or in part by the State of Connecticut, and is in excess of FIFTY THOUSAND DOLLARS (\$50,000.00), for the construction, rehabilitation, conversion, extension, demolition, or repairing of a public building or highway, or other changes or improvements in real property.

**12.4.4** Set-Aside requirements – Any contractor awarded a municipal public works contract, on the basis of competitive bidding procedures, shall comply with the following Set –Aside requirements:

- i.** set aside at least twenty-five per cent (25%) of the total value of the state's financial assistance for such contract for award to subcontractors who are small contractors, and
- ii.** of that portion to be set aside in accordance with Subparagraph i. of this subdivision, reserve a portion equivalent to twenty-five per cent (25%) of the total value of the contract or portion thereof to be set aside for awards to subcontractors who are minority business enterprises.

**12.4.5** Failure of the Contractor or subcontractor to comply with the State of Connecticut Set-Aside requirements shall be a material breach of this Contract.

**13. Discriminatory Practices.** In performing this Contract, the Contractor shall not discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, sex, sexual orientation, gender identity or association, age, religious creed, disability, national origin or ancestry, marital status, family status, prior psychiatric treatment, health care, military status or source of income or because of a handicap that is unrelated to the employee's or the applicant's ability to perform the duties of a particular job or position. Subcontracts with each subcontractor shall contain a provision requiring non-discrimination in employment as herein specified. This covenant is required pursuant to

§93.04 of the Code of Ordinances of the City and any breach thereof may be regarded as a material breach of this Contract. Said provisions with subcontractors shall require conformity and compliance with all local, state and federal laws, rules and regulations and Executive orders pertaining to discrimination and equal opportunity requirements.

**13.1. Discrimination Because of Certain Labor Matters.** No person employed on the work covered by this Contract shall be discharged or in any way discriminated against because such person has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or related to the labor standards applicable hereunder to its employer.

**13.2. Equal Opportunity.** In its execution of the performance of this Contract, the Contractor shall not discriminate and shall comply with applicable laws prohibiting discrimination on the grounds of race, color, religion, sex, sexual orientation, gender identity or association, national origin or citizenship status, age or handicap. The Contractor agrees to comply with all local, state and federal laws, rules and regulations and Executive orders pertaining to discrimination and equal opportunity requirements, and will require the same of all subcontractors

**13.3. Affirmative Action.**

**13.3.1. Pursuant to CONN. GEN. STAT. § 4a-60, as amended by June 2015 Special Session Public Act 15-5, the following are required for every Municipal Public Works Contract:**

(a) Every contract to which an awarding agency is a party, every quasi-public agency project contract and every municipal public works contract shall contain the following provisions:

(1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut; and the contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved;

(2) The contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the contractor, to state that it is an

"affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission on Human Rights and Opportunities;

(3) The contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(4) The contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, as amended by this act, 46a-68e, 46a-68f and 46a-86; and

(5) The contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor as relate to the provisions of this section and section 46a-56, as amended by this act.

(b) If the contract is a public works contract, municipal public works contract or contract for a quasi-public agency project, the contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works or quasi-public agency project.

**13.3.2. Pursuant to CONN. GEN. STAT. § 4a-60a, as amended by June 2015 Special Session Public Act 15-5, the following are required for every Municipal Public Works Contract:**

(a) Every contract to which an awarding agency is a party, every contract for a quasi-public agency project and every municipal public works contract shall contain the following provisions:

(1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the state of Connecticut, and that employees are treated when employed without regard to their sexual orientation;

(2) The contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under this section, and to post

copies of the notice in conspicuous places available to employees and applicants for employment;

(3) The contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to section 46a-56; and

(4) The contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the contractor which relate to the provisions of this section and section 46a-56.

## **14. Good Jobs Ordinance**

### **14.1. Conformance With An Ordinance Concerning The Hiring Of Waterbury Residents On Certain Publicly-Funded Construction Projects.**

**14.1.1** The Contractors and its Subcontractors shall comply with the specific requirements of “An Ordinance Concerning the Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects” (the “Good Jobs Ordinance”), as may be amended from time to time and as set forth in Chapter 34 of the Code of Ordinances of the City. While the principal provisions of the ordinance are summarized as set forth in paragraphs C-H below, the Contractor does hereby acknowledge that it has reviewed a copy of the Good Jobs Ordinance and that it has read the Ordinance and that Contractor is familiar with the obligations imposed on the Contractor and each Subcontractor by the Good Jobs Ordinance.

**14.1.2** Failure of the Contractor or its Subcontractors to comply with the Good Jobs Ordinance shall be a material breach of this Agreement.

**14.1.3** This paragraph shall apply to a Covered Project, as that term is defined in the Good Jobs Ordinance, in the City with a value of \$500,000.00 or greater and only to the extent permitted by federal and state law.

**14.1.4 Definitions.** For purposes of this paragraph:

- i.** “Administrator” shall be defined as it is in the Good Jobs Ordinance.
- ii.** “Apprentice” shall be defined as it is in the Good Jobs Ordinance.
- iii.** “Basic Skilled Worker” shall be defined as it is in the Good Jobs Ordinance.
- iv.** “Contractor” shall be defined as it is in the Good Jobs Ordinance.



- v. "Covered Project" shall be defined as it is in the Good Jobs Ordinance.
- vi. "Hiring Goal" shall be defined as it is in the Good Jobs Ordinance.
- vii. "Resident" shall be defined as it is in the Good Jobs Ordinance.
- viii. "Subcontractor" shall be defined as it is in the Good Jobs Ordinance and shall include the Contractor's direct subcontractor providing construction work and all lower tiered (level) providers of construction work.

**14.1.5 Hiring Goals.** If this Agreement requires the Contractor to perform work on a Covered Project, the Contractor and each Subcontractor shall have as its hiring goals:

- i. at least thirty percent (30%) of its total worker hours performed by City Residents, and
- ii. at least twenty-five percent (25%) of construction trade jobs shall go to Apprentices and/or Basic Skilled Workers, and
- iii. at least seventy percent (70%) of all "new hires" (as that term is defined in the Good Jobs Ordinance) shall be "economically disadvantaged" individuals (as that term is defined in the Good Jobs Ordinance), and
- iv. a minimum of five percent (5%) of the construction workforce labor hours will be local resident, minority artisans, and
- v. a minimum of five percent (5%) of the construction workforce labor hours will be women, and
- vi. a minimum of ten percent (10%) of the total work hours shall be allocated for minorities, or
- vii. as may otherwise be required by any superseding Federal or State employment discrimination prohibition laws.

**14.1.6 Good Faith Efforts.** The Contractor and each Subcontractor shall engage in Good Faith Efforts to comply with the Hiring Goals. For the purposes of this paragraph, the term "Good Faith Efforts" shall have the same meaning as it does in the Good Jobs Ordinance.

The Contractor and each Subcontractor shall individually implement Good Faith efforts to satisfy the Hiring Goals.

**14.1.7 Action Plan and Pre-Construction Meeting.** Not later than fourteen (14) business days prior to the scheduled commencement date for construction, the Contractor shall submit a written plan-of-action to the City and to the Administrator of the Good Jobs Ordinance defining how the Contractor, and each Subcontractor, shall implement Good Faith Efforts to fulfill the Hiring Goals. Each plan-of-action shall include the anticipated number of job positions required for the Work. Not later than five (5) business day prior to the commencement date of construction, the Contractor must attend a mandatory "pre-construction" meeting with the City to review all plans-of-action and other relevant materials. No construction work shall proceed absent this pre-construction meeting.

**14.1.8 Other Contractor Obligations.** In addition to the foregoing, the Contractor shall ensure that all Subcontractor contracts and agreements expressly set forth and state as binding obligations therein, subject to appropriate party name change, the above Hiring Goals and Good Faith Efforts. The Contractor shall be accountable for, and liable to the City for, Contractor and each Subcontractor compliance with Hiring Goals and Good Faith efforts.

- i. The Contractor shall meet with the Administrator no less than four (4) weeks prior to the commencement of construction on a Covered Project and provide the Administrator with the number of job positions to be created by the project by trade and the qualifications by job tile.
- ii. The Contractor shall be required to produce Contractor and Subcontractor documentation that may be required under the provisions of the Good Jobs Ordinance or that the City or the Administrator reasonably believes will assist the City or the Administrator with their evaluation of Hiring Goals and Good Faith Efforts.
- iii. The Contractor shall deliver weekly certified payroll records to the City within five (5) working days of the end of each payroll period. Moreover, the Contractor shall require each Subcontractor to create weekly certified payroll records.
- iv. The Contractor's and each Subcontractor's payroll records shall include the person-hours, the residential address, race, gender, hiring date, and apprentice (job) classification of all personnel employed under this Agreement and all Contracts and Sub-Contracts thereunder. The Contractor and each Subcontractor shall mark their respective final payroll period records as being final and be signed by an authorized officer or employee.

## **14.2 Liquidated Damages Applicable To Section 14.1**

**14.2.1** If the City finds that the Contractor, or a Subcontractor, has failed to achieve Hiring Goals during any five (5) day work period (Monday through

Friday), the City shall:

- i. issue a written notice to the Contractor specifying the matters constituting such failure and the time period within which Good Faith Efforts documentation must be delivered to the City for its evaluation.
- ii. if the Good Faith documentation is not provided or, if provided, it fails to demonstrate compliance with Good Faith Efforts, the Contractor shall, for each failure by the Contractor or a Subcontractor to achieve the Hiring Goals during a full five day work period, pay to the City one thousand dollars (\$1,000.00) as liquidated damages.

**14.2.2** If the City finds that the Contractor, or a Subcontractor, has failed to deliver weekly certified payroll records to the City within five (5) working days of the end of each payroll period the Contractor shall, as liquidated damages pay one thousand dollars (\$1,000.00) to the City for each week of ongoing violation.

**14.2.3** The City shall provide the Contractor with an invoice identifying all sums due the City, as liquidated damages, as a result of the Contractor or a Subcontractor's failure to comply with the Good Jobs Ordinance as set forth above.

**14.2.4** No portion of any invoice submitted by a Contractor that is subject to liquidated damages shall be paid by the City until such time as all liquidated damages relating to that invoice have been paid to the City.

**14.2.5** The foregoing liquidated damages provisions shall be expressly set forth, subject to appropriate party name adjustments, as material provisions in all Contracts that the Contractor has with Subcontractors and the Contractor is obligated hereunder to enforce compliance in such Contracts with Subcontractors.

**14.2.6** Any payment of liquidated damages hereunder shall not preclude a later claim, nor any later finding of a breach, or any payment of additional damages related to such later claim.

**15. Housing and Urban Development Section 3 Clause.** In the event this Contract is funded, in whole or in part, through Housing and Urban Development assistance, 24 C.F.R. Part 75, §§75.1 – 75.33 (formerly 24 C.F.R. Part 135, §135.38) may apply and the Contractor shall then be required to comply with the following (referred to as the "Section 3 clause"):

**15.1.** The work to be performed under this Contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. § 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted Projects covered by Section 3, shall, to the greatest extent feasible, be directed to low and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

**15.2.** The parties to this Contract agree to comply with HUD's regulations in 24 C.F.R. Part 75, which implement Section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

**15.3.** The Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

**15.4.** The Contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 C.F.R. Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 C.F.R. Part 75. The Contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 C.F.R. Part 75.

**15.5.** The Contractor will certify that any vacant employment positions, including training positions, that are filled **(i)** after the Contractor is selected but before the Contract is executed, and **(ii)** with persons other than those to whom the regulations of 24 C.F.R. Part 75 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 C.F.R. Part 75.

**15.6.** Noncompliance with HUD's regulations in 24 C.F.R. Part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

**15.7.** With respect to work performed in connection with Section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. § 450e) also applies to the work to be performed under this Contract. Section 7(b) requires that to the greatest extent feasible **(i)** preference and opportunities for training and employment shall be given to Indians, and **(ii)** preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this Contract that are subject to the provisions of Section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

## **16. Termination.**

**16.1. Termination of Contract for Cause.** If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the City shall thereupon have the right to terminate this Contract by either **(i)** giving written notice to the Contractor of a date certain by which Contractor shall, to the written satisfaction of the City, cure after which and without further action by any party, such termination shall automatically become effective and binding, or **(ii)** giving written notice to the Contractor specifying the effective date of such termination at least five (5) business days before the effective date of such termination.

**16.1.1** In the event of a termination, all finished or unfinished documents, data, studies, reports, plans, specifications, drawings, supplies, services, etc. prepared by the Contractor under this Contract shall, at the option of the City, become the City's property, and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed for such.

**16.1.2** Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of this Contract by the Contractor, and the City may withhold any payments to the Contractor for the purpose of setoff until such time as the exact amount of damages due the City from the Contractor is determined.

**16.2. Termination for Convenience of the City.** The City may terminate this Contract at any time for the convenience of the City, by a notice in writing from the City to the Contractor. If this Contract is terminated by the City as provided herein, the Contractor will be paid an amount which bears the same ratio to the total compensation as the services actually performed bear to the total services of the Contractor covered by this Contract, less payments of compensation previously made.

**16.3. Termination for Non-Appropriation or Lack of Funding.** The Contractor acknowledges that the City is a municipal corporation and that this Contract is subject to the appropriation and disbursement of funds by the City sufficient for this Contract for each budget year in which this Contract is in effect. The Contractor therefore agrees that the City shall have the right to terminate this Contract in whole or in part without penalty to the City in the event that sufficient funds to provide for City payment(s) under this Contract is not appropriated, not authorized, or not made available, or such funding has been reduced. In the event this Contract is subject, in whole or in part, to the appropriation and disbursement of Federal and/or State funds and those Federal and/or State funds are not appropriated or are not disbursed to the City, the Contractor hereby agrees that the City shall have the right to terminate this Contract in whole or in part without penalty to the City.

**16.3.1 Effects of Non-Appropriation.** If funds to enable the City to effect continued payment under this Contract are not appropriated, authorized or otherwise made available by law, the City shall have the right to terminate this

Contract without penalty at the end of the last period for which funds have been appropriated, authorized or otherwise made available by law by giving written notice of termination to the Contractor.

**16.3.2 Effects of Reduced Levels of Funding.** If funding is reduced by law, or funds to pay the Contractor for the agreed to level of the products, services and functions to be provided by the Contractor under this Contract are not appropriated, authorized or otherwise made available by law, the City may, upon seven (7) business days written notice to the Contractor, reduce the level of the products, services or functions in such manner and for such periods of time as the City may elect. The charges payable under this Contract shall be equitably adjusted to reflect such reduced level of products, services or functions and the parties shall be afforded the rights set forth in this Contract.

**16.3.3 No Payment for Lost Profits.** In no event shall the City be obligated to pay or otherwise compensate the Contractor for any lost or expected future profits.

#### **16.4. Rights Upon Termination.**

**16.4.1 Termination for Cause.** In the event the City terminates this Contract for cause, the Contractor shall relinquish to the City any applicable interest, title and ownership including, but not limited to, perpetual use of any proprietary rights in and to the products and deliverables delivered to, in possession of and properly invoiced and paid for by (except to the extent such invoiced amount is disputed) the City. With regard to third party products, the Contractor shall transfer all licenses which it is permitted to transfer in accordance with the applicable third party license. The City shall have no financial obligation to compensate the Contractor for such terminated products unless payment is otherwise approved by the City prior to such termination. The Contractor shall be liable for costs incurred by the City, including but not limited to reasonable attorney fees and all court awarded fees and costs incurred in terminating this Contract in whole or in part.

**16.4.2 Termination for Lack of Funding or Convenience.** In the event of termination by the City for lack of funding or convenience, the City shall pay the Contractor for all labor, services, equipment, materials, reports, plans, specifications, drawings, deliverables, incidentals, etc.(including any holdbacks) installed and delivered to the City as of the Termination Date and the Contractor shall relinquish to the City any applicable interest, title and ownership including, but not limited to perpetual use of any proprietary rights in and to said labor, services, equipment, materials, reports, plans, specifications, drawings, deliverables, incidentals, etc. delivered to, in possession of and paid for by the City (except to the extent any invoiced amount is disputed). The Contractor shall be required to exercise commercially reasonable efforts to mitigate damages. In the event of a termination for Lack of Funding or Convenience the City and the Contractor may negotiate a mutually acceptable payment to the Contractor for

reasonable demobilization expenses. Said demobilization expenses, if any, shall be handled in accordance with the provision of this Contract pertaining to changes in the Project.

**16.4.3 Assumption of Subcontracts.** In the event of termination, the City shall have the right to assume, at its option, any and all subcontracts for products, services and functions provided exclusively under this Contract.

**16.4.4 Delivery of Documents.** In the event of termination, **(i)** the Contractor shall promptly deliver to the City, in a manner reasonably specified by the City, all documents and other tangible items furnished by, or owned, leased, or licensed by, the City, and **(ii)** the City shall pay the Contractor for all services performed and deliverables completed and accepted (pro-rated for deliverables partially completed) prior to the effective date of the termination (except to the extent any invoice amount is disputed).

**17. Force Majeure.** Neither the Contractor nor the City shall be held responsible for delays or be considered to be in breach of this Contract or be subject to liquidated damages when their respective obligations under this Contract are caused by conditions beyond their control, including without limitation:

**17.1.** Acts of God, such as severe acts of nature or weather events including floods, fires, earthquakes, hurricanes, cyclones, or explosions;

**17.2.** war, acts of terrorism, acts of public enemies, revolution, civil commotion or unrest, riots, pandemics or epidemics;

**17.3.** acts of governmental authorities such as expropriation, condemnation, changes of law and order or regulations, proclamation, ordinance, or other governmental requirement;

**17.4.** strikes and labor disputes; and

**17.5.** certain accidents including but not limited to hazardous, toxic, radioactive or nuclear contamination spills, contamination, combustion or explosion, which prevent a Party from fulfilling their obligations or otherwise render performance under the Contract impossible.

Upon cessation of work for reason of force majeure delays, the Party(ies) whose obligations are affected shall use their best efforts to meet their schedule set forth in Section 5 of this Contract and their obligations under this Agreement.

**18. Subcontracting.** The Contractor shall not, without the prior written approval of the City's Using Agency, subcontract, in whole or in part, any of the Contractor's services. Any subcontractor so approved shall be required to secure and maintain insurance coverage equal to or better than that required of the Contractor and shall name the City as an additional insured party and said subcontractors shall deliver to the City a certificate of insurance evidencing such

coverages. All subcontractors shall comply with all federal, state and local, laws, regulations and ordinances but such requirement shall not relieve the Contractor from its requirement that all services provided hereunder shall comply with all Federal, State and local, laws, regulations and ordinances.

**18.1.** The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by the Contractor.

**18.2.** The Contractor is responsible for and shall control activities of its subcontractors, and the subcontractors shall consult and cooperate with one another and other contractors working on the Project site. Each subcontractor shall furnish all necessary information to other subcontractors and shall lay out and install its own work so as to avoid any delays or interferences with the work of another. Any cost for changes, cutting and/or repairing, made necessary by failure to observe the above requirements shall be borne by the Contractor or subcontractor responsible for such failure or neglect.

**18.3.** The Contractor shall not, without the prior written approval of the City's Using Agency, substitute, terminate, replace or otherwise remove a subcontractor.

**19. Assignability.** The Contractor shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by assignment or novation) without the prior written approval of the City; provided, however, that claims for money due or to become due the Contractor from the City under this Contract may be assigned to a bank, trust, company, or other financial institution, or to a Trustee in Bankruptcy, without such approval. Notice of any such assignment or transfer shall be furnished promptly to the City.

**20. Audit.** The City reserves the right to audit the Contractor's books of account in relation to this Contract any time during the period of this Contract or at any time during the twelve month period immediately following the closing or termination of this Contract. In the event the City elects to make such an audit, the Contractor shall immediately make available to the City all records pertaining to this Contract, including, but not limited to, payroll records, bank statements and canceled checks.

**21. Interest of City Officials.** No member of the governing bodies of the City, and no other officer, employee, or agent of the City who exercises any functions or responsibilities in connection with the carrying out of the Project to which this Contract pertains, shall have any personal interest, direct or indirect, in this Contract.

**22. Interest of Contractor.** The Contractor covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in the Project or any parcel of land therein or any other interest which would conflict in any manner or degree with the performance of its services hereunder. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

**23. Entire Contract.** This Contract shall constitute the complete and exclusive statement of the contract between the parties as it relates to this transaction and supersedes all previous



agreements and understandings, whether written or oral, relating to such subject matter. Any amendment to this Contract must be in writing and agreed to and executed by the City and the Contractor, and must comply with the City's Charter and Code of Ordinances.

**24. Independent Contractor Relationship.** The relationship between the City and the Contractor is that of client and independent contractor. No agent, employee, or servant of the Contractor shall be deemed to be an employee, agent or servant of the City. The Contractor shall be solely and entirely responsible for its acts and the acts of its agents, employees, servants and subcontractors during the performance of this Contract.

**25. Severability.** Whenever possible, each provision of this Contract shall be interpreted in such a manner as to be effective and valid under applicable law. If any provision of this Contract, however, is held to be prohibited or invalid under applicable law, such provision shall be deemed restated to reflect the original intentions of the parties, as nearly as possible in accordance with applicable law, and if capable of substantial performance, the remaining provisions of this Contract shall be enforced as if this Contract was entered into without an invalid provision. If the ruling and/or controlling principle of law or equity leading to the ruling is subsequently overruled, modified or amended by legislation, judicial or administrative action, then the provision(s) in question as originally set forth in this Contract shall be deemed valid and enforceable to the maximum extent permitted by the new controlling principal of law or equity.

**26. Survival.** Any provisions of this Contract that impose continuing obligations on the parties shall survive the expiration or termination of this Contract for any reason.

**27. Changes in the Project: Change Orders.**

**27.1. Requests for Change Orders.** The City reserves the right on its own volition, or based upon a proposal for a Change Order submitted in written form with a thorough explanation by the Contractor, to request from time to time any changes to the requirements and specifications of this Contract and the products to be provided and the functions and services to be performed by the Contractor under this Contract. Such changes must be authorized by the City. The City will not approve of any change orders, deletions, additions, or additional work items to the Scope of Services or any change in the terms and conditions of this Contract except by means of a City authorized amended Scope of Services, applicable and restricted to those items set forth in §1, above, or Change Order issued as set forth in this section, except in the event of an emergency endangering life or property.

**27.2. Procedures.**

**27.2.1 The Contractor's Response to a Change Request.**

i. Within thirty (30) calendar days after receipt of a request by the City for any such change or such other period of time as the Parties may mutually agree to in writing, the Contractor shall submit to the City a proposal describing any changes in Contract Milestones or Contract completion dates, products, functions, timing of delivery, assignment of personnel, and the like, and any associated price adjustment. The

Contractor's proposal shall describe, in detail, the basis for the proposed price adjustment, including the charges for any products required to implement the change request.

ii. To the extent that additional cost or cost savings result from a change in required products, the Contractor shall obtain any additional products and provide them to the City at a negotiated price acceptable to the City and the Contractor. Similarly, if the change request is expected to result in a reduction in products required to perform the services, the Contractor's charges shall be reduced by the cost savings resulting from the products eliminated by the change request.

**27.2.2 City's Acceptance of Change Request.** If the City accepts the Contractor's proposal, the City shall issue a change order referencing the Contractor's proposal and both parties shall sign the change order. The Contractor shall not implement any change request until the City has issued a valid, properly executed, change order.

**27.2.3 City's Rejection of Change Request.** If the City does not accept the Contractor's proposal, the City may within two weeks of such non-acceptance: (i) withdraw its change request; or, (ii) modify its change request, in which case the procedures set forth above shall apply to the Contractor's response to the modified change request.

**27.3. City Discretion.** The City may, in its sole discretion, approve the proposed Change Order and shall forward same for additional signatures under the following conditions: (i) If it conforms to provisions of applicable laws, and (ii) if it is consistent with this Contract, and (iii) if the time of performance of this Contract will not be unreasonably delayed, (iv) the Final Completion date is not changed, (v) if the Change Order requires a change to the Final Completion date, such change has been authorized by an approved, executed, written Amendment to this Contract, and (vii) if the Change Order requires an increase in the price of the Contract, the City (1) has sufficient funds, and (2) if a budget transfer is required to cover the cost of the proposed Change Order, such transfer has secured the written approval of the Board of Aldermen and other required regulatory agencies.

**27.4. Change Orders Governed by the Provisions of this Contract.** All work performed under a Change Order is governed by the provisions of this Contract.

**28. Conflicts or Disputes.** This Contract represents the concurrence between the City and the Contractor and governs all disputes between them. In the instance of a conflict or dispute over issues not specifically referenced within the Contract, the following documents shall be used as historical documents, without regard to the order of precedence, to resolve such conflicts or disputes, as follows: (i) the City's RFP Number 7221, including Scope of Services, attached thereto; and (ii) the Contractor's Price Proposal dated March 31, 2022. Said historical documents are attached hereto as part of **Attachment A**.

**28.1. Procedure.** This procedure supersedes all statements to the contrary occurring either in proposals or other prior agreements, oral or written, and all other communications between the parties relating to this subject.

**28.2. Presumption.** This Contract or any section thereof shall not be construed against any party due to the fact that the Contract or any section thereof was drafted by such party.

**29. Disputes; Legal Proceedings; Waiver of Trial by Jury and Continued Performance.** The Contractor agrees that it waives a trial by jury as to any and all claims, causes of action or disputes arising out of this Contract or services to be provided pursuant to this Contract. Notwithstanding any such claim, dispute or legal action, the Contractor shall continue to perform services under this Contract in a timely manner, unless otherwise directed by the City.

**30. Binding Contract.** The City and the Contractor each bind themselves, and their successors, assigns and legal representatives to the other party to this Contract and to the successors, assigns and legal representatives of such other party with respect to all covenants of this Contract.

**31. Waiver.** Any waiver of the terms and conditions of this Contract by either of the parties hereto shall not be construed to be a waiver of any other term or condition of this Contract.

**32. Governing Laws.** This Contract, its terms and conditions and any claims arising therefrom shall be governed by the laws of the State of Connecticut.

**33. Notice.** Except as otherwise specifically prohibited in this Contract, whenever under this Contract approvals, authorizations, determinations, notices, satisfactions or waivers are required or permitted, such items shall be effective and valid only when given in writing signed by a duly authorized officer of the City or the Contractor, and delivered in hand or sent by mail, postage prepaid, to the party to whom it is directed, which until changed by written notice, are as follows:

Contractor: Environmental Systems Corp.  
18 Jansen Court  
West Hartford, CT 06110

City: City of Waterbury. Dept. of Education  
Chase Municipal Building  
Attn: IT Dept. & School Security  
235 Grand Street  
Waterbury, CT 06702

With a copy to: Office of the Corporation Counsel  
City of Waterbury  
City Hall Municipal Building – 3<sup>rd</sup> Floor  
235 Grand Street  
Waterbury, CT 06702

**34. City Code of Ordinances, Ethics and Conflict of Interest Code, Provisions.**

The Person (the term "Person" shall herein be as defined in Section 38 of the City's Code of Ordinances) supplying the labor, services, equipment, materials, reports, plans, specifications, drawings, deliverables, incidentals, etc. under this Contract shall comply with all applicable Federal, State and Municipal statutes, regulations, charters, ordinances, rules, etc, whether or not they are expressly stated in this Contract, including but not limited to the following:

**34.1.** It shall be a material breach of this Contract, and, except as may be permitted by regulations or rulings of the City of Waterbury Board of Ethics it shall be a violation of the City's Code of Ordinances, for any Public Official, City Employee or Member of a Board or Commission who is participating directly or indirectly in the procurement process as set forth in the City's Code of Ordinances, including those participating in exempt transactions, to become or be the employee of any person contracting with the governmental body by whom the Official, Employee, or Board or Commission member is employed or is a member.

**34.2.** It shall be a material breach of this Contract, and it shall be a violation of the City's Code of Ordinances for any Person to offer, give, or agree to give any current or former Public Official, Employee or Member of a Board or Commission, or for such current or former Public Official, Employee or Member of a Board or Commission to solicit, demand, accept or agree to accept from another Person, a gratuity or an offer of employment in connection with any: decision; approval; disapproval; recommendation; preparation of any part of a program requirement or a requisition; influencing the content of any specification or procurement standard; or rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a Contract or Purchase Order, or to any solicitation or proposal therefore.

**34.3.** It shall be a material breach of this Contract and it shall be a violation of the City's Code of Ordinances for any payment, Gratuity, or offer of employment to be made as an inducement for the award of a subcontract or order, by or on behalf of a subcontractor, the prime Contractor or higher tier subcontractor or any Person associated therewith, under a Contract or Purchase Order to the City.

**34.4.** The value of anything transferred or received in violation of the City's Charter, Code of Ordinances, and/or regulations promulgated there under, by any Person subject to said Charter and/or Ordinances may be recovered by the City.

**34.5.** Upon a showing that a subcontractor made a kickback to the City, a prime Contractor or a higher tier subcontractor in connection with the award of a subcontract or order there under, it shall be conclusively presumed that the amount thereof was included in the price of the subcontract or order and ultimately borne by the City and will be recoverable hereunder from the recipient. In addition, said value may also be recovered from the subcontractor making such kickbacks. Recovery from one offending party shall not preclude recovery from other offending parties.

**34.6.** It shall be a material breach of this Contract and it shall be a violation of the City's Code of Ordinances for a Person to be retained, or to retain a Person, to solicit or secure a contract with the City upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee; and every Person, before being awarded a City Contract, shall deliver to the City, on a City authored form, a representation that such Person has not retained anyone in violation of this subsection 34.6, the failure to deliver said form being a material breach of this Contract and a violation of the City's Code of Ordinances. Note, however, this subsection 34.6 shall not apply to full-time Employees who, as a condition of their employment, may be entitled to bonuses or other fees in accordance with their employment relationship.

**34.7.** The Person hereby expressly represents that he/she/it has complied with those sections of the City's Code of Ordinances requiring that said Person has **(i)** delivered to the City an affidavit, on a City authored form, stating that the Person and its affiliates have no delinquent taxes or other financial obligations owed to the City; **(ii)** filed the City authored financial disclosure statement form as set forth in the City's Code of Ordinances regarding disclosure of financial interests; **(iii)** delivered to the City a written acknowledgement, on a City authored form, evidencing receipt of a copy of the "Ethics and Conflict of Interest" ordinance for the City of Waterbury and hereby expressly represents that said Person is in full compliance with the entirety of said Code of Ordinances; and **(iv)** filed a current list of all taxable personal and real property as required by the State of Connecticut General Statutes. Any violation of this subsection 34.7 shall be deemed a material breach of this Contract and shall be a violation of the City's Code of Ordinances.

**34.8.** The definitions set forth in the City's Code of Ordinances shall be the primary source for interpretation of the forgoing subsections 34.1-34.7.

**34.9.** The Contractor is hereby charged with the requirement that it shall have knowledge of, and shall fully comply with, all relevant provisions of the City's Charter and all relevant provisions of the City's Code of Ordinances, including without limitation Chapters 93, titled "Discriminatory Practices", Chapter 38 titled "Centralized Procurement System", and Chapter 39 titled "Ethics and Conflict of Interest", of said Code as may be amended from time to time.

**34.10** The Contractor hereby acknowledges receipt of a copy of the Chapters 38 and 39 of City's Ordinance regarding Procurement, Ethics, and Conflicts of Interest and has familiarized itself with said Code and hereby agrees to adhere to said Code. The text of Chapters 38 and 39 of said Code may be obtained from the Office of the City Clerk of the City and on the internet at the City Clerk's web site: <https://www.waterburyct.org/services/city-clerk/code-of-ordinances> [click link titled "Code of Ordinances (Rev. 12/31/19)". For Chapter 38, click on "TITLE III: ADMINISTRATION", then click on "CHAPTER 38: CENTRALIZED PROCUREMENT SYSTEM". For Chapter 39, click on "TITLE III: ADMINISTRATION", then click on "CHAPTER 39: ETHICS AND CONFLICTS OF

**34.11.** The Contractor is hereby charged with the requirement that it shall have knowledge of, and shall fully comply with, the City's Ordinance Sections 34.15 through 34.99 entitled, "Ordinance Concerning the Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects," and the State of Connecticut Legislature's Special Act No. 01-1.

**34.12.** Every Person who conducts business with, contracts, with or provides commodities or services to the City, is charged with notice of the extent of the powers and authority, and the limitations thereon, of the Public Officials and Employees of the City, as set forth in the charter of the City, the Code of Ordinances and any Regulations or Policies pertaining thereto. In particular, and without implying any limitation as to its applicability, it applies to all Persons who participate in the procedures pertaining to the Centralized Procurement System as set forth in Chapter 38, and the Ethics and Conflict of Interest provisions set forth in Chapter 39 of the Code of Ordinances.

**34.13. INTEREST OF CITY OFFICIALS.** No member of the governing body of the City, and no other officer, employee, or agent of the City who exercises any functions or responsibilities in connection with the carrying out of the project, to which this agreement pertains, shall have any personal interest, direct or indirect, in this agreement.

**34.14. PROHIBITION AGAINST CONTINGENCY FEES.** The Contractor hereby represents that it has not retained anyone to solicit or secure a contract with the City upon an agreement or understanding for a commission, percentage, brokerage or contingency fee.

**34.15. FREEDOM OF INFORMATION ACT NOTICE.** Pursuant to State statute, in the event the total compensation payable to the Contractor set forth in Section 6 of this Contract is greater than \$2,500,000.00, the City is entitled to receive a copy of any and all Contractor records and files related to the performance of this Contract and those records and files are subject to the Freedom of Information Act ("the Act") and may be disclosed by the City pursuant to the Act.

**35. Definitions.** Whenever the following, words, terms, etc. appear in this Contract, the intent and meaning shall be as follows:

**35.1** Additional Work: Work required by the City that involves a substantial addition to, deduction from or modification of the Contract Documents.

**35.2** Bid or Proposal: The form on which the Bidder/Proposer is to submit a response/bid for the Work contemplated.

**35.3** Bidder/Proposer: A person, partnership, corporation or other business organization submitting a bid/proposal on the form for the Work contemplated.

**35.4** City: The City of Waterbury, acting directly or through specifically authorized personnel.

- 35.5** Construction Supervisor: An employee of the City of Waterbury, or other City duly authorized person.
- 35.6** Contract Time: The number of days as stated in the Contract to: (i) achieve Substantial Completion, (ii) Final Completion.
- 35.7** Equal: The recognized equivalent in substance and function; considering quality, workmanship, economy of operation, durability and suitability for purposes intended, and not constituting a change in the Work specified. Whenever the words "equal" or "equals" or words of like import are used, it shall be understood they mean "equal" in the opinion of the City.
- 35.8** Final Completion: The time at which the Project has progressed to the point where, in the opinion of the City, the Project is complete such that it is ready for final payment as evidenced by the City's, or its duly authorized City representative's, written recommendation of final payment. The terms "finally complete" and "finally completed" as applied to the Project refer to Final Completion.
- 35.9** Notice to Proceed: A letter from the City which shall state the date of execution of the Contract and specifically advise the Contractor to begin work on the Contract.
- 35.10** Plans: All drawings or reproductions of drawings pertaining to the construction of the work contemplated and its appurtenances.
- 35.11** Project Engineer or Manager: An employee of the City or a person, partnership, corporation or other business organization under contract with the City, commissioned to perform construction administration and inspection duties during construction.
- 35.12** Shop Drawings: Drawings, diagrams, schedules, performance charts, brochures and other materials prepared by the Contractor or subcontractors, manufacturers or distributors which illustrate some portion of the work.
- 35.13** Specifications or Technical Specifications: The description, provisions and other requirements pertaining to the materials, methods and manner of performing the Project. Also may be referred to as the Scope of Services.
- 35.14** Subcontractor: A person, partnership, corporation or other business organization supplying labor and/or materials for work at the site of the Project to and under agreement with the Contractor.
- 35.15** Substantial Completion: The time at which, in the opinion of the Engineer, the Project (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Project (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially

complete" and "substantially completed" as applied to all or part of the Project mean Substantial Completion thereof.

- 35.16** Substitution: A replacement of specified material, device or equipment which is sufficiently different in substance, function, quality or workmanship to become the subject of a Change Order.
- 35.17** Supplementary General Conditions: An extension to the terms, conditions, and provisions set forth in this document as additional, material, provisions of this Contract.
- 35.18** Work: All plant, labor, materials, services, supplies, equipment and other facilities and items necessary for, or incidental to, the completion of the terms of the Contract.
- 35.19** Using Agency: City of Waterbury Department of Education, Information Technology Center and School Security.

**[Signature page follows]**



**IN WITNESS WHEREOF**, the Parties hereto execute this Contract on the dates signed below.

**WITNESSES:**

**CITY OF WATERBURY**

Sign: \_\_\_\_\_  
Print name: \_\_\_\_\_

By: \_\_\_\_\_  
Neil M. O'Leary, Mayor

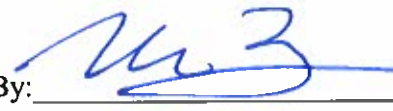
Sign: \_\_\_\_\_  
Print name: \_\_\_\_\_

Date: \_\_\_\_\_

**WITNESSES:**

**ENVIRONMENTAL SYSTEM CORP.**

Sign:   
Print name: Michael Amedeo

By:  Michael Mullins  
Its: Chief Operating Officer

Sign:   
Print name: Ben Denasty

Date: April 14, 2022

## **ATTACHMENT A**

1. RFP No. 7221, consisting of 12 pages (attached hereto);
2. Addendum #1 to RFP No. 7221, dated March 25, 2022, consisting of 2 pages (attached hereto);
3. Contractor's Price Proposal, dated March 31, 2022, consisting of 4 pages (attached hereto);
4. "Scope of Services" (attachment F to RFP No. 7221), consisting of 123 pages, and including the following project specifications, drawings, and equipment specifications:
  - 4.1 "Pathways for Security Systems," section 28 05 28, consisting of 12 pages (attached hereto);
  - 4.2 "Video Surveillance System," section 28 23 00, consisting of 16 pages; (attached hereto);
  - 4.3 "Access Control System," section 28 13 00, consisting of 23 pages; (attached hereto);
  - 4.4 "School Security Drawings," consisting of 28 pages (attached hereto and as otherwise incorporated by reference);
  - 4.5 "Existing Analog/Digital Cameras Per School," consisting of 2 pages (attached hereto);
  - 4.6 "Waterbury New Bid Equipment List," consisting of 1 page (attached hereto);
  - 4.7 "Communication Horizontal Cabling," section 27 15 00, consisting of 16 pages (attached hereto);
  - 4.8 "Door Hardware Sets," section 080671, consisting of 6 pages (attached hereto);
  - 4.9 "Hollow Metal Doors and Frames," section 081113, consisting of 10 pages (attached hereto);
  - 4.10 "Security Conductors & Cables," section 28 05 00, consisting of 5 pages (attached hereto);
  - 4.11 "Seneca Certainty 400 Series" and "Seneca Assurance 300 Series" Server Specifications, consisting of 4 pages (attached hereto);
5. Contractor's Qualification Statement, consisting of 4 pages (attached hereto);
6. Contractor's Commission on Human Rights and Opportunities documentation, consisting of 5 pages (attached hereto and as otherwise incorporated by reference);
7. "Good Jobs Ordinance" City of Waterbury Ordinance "Chapter 34: City Policy, 'Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects,'" consisting of 7 pages (attached hereto);
8. State Prevailing Wage Documentation, consisting of 10 pages (attached hereto);
9. Any and all amendment(s) and Change Orders, issued by the City after execution of Contract (incorporated by reference);

- 10.** City Contract Compliance Documents (Stockholder's Affidavit; Non-Collusion Affidavit; Debarment Certificate) (incorporated by reference);
- 11.** Certificates of Insurance (incorporated by reference);
- 12.** Contractor's Payment and performance Bonds (incorporated by reference);
- 13.** State of Connecticut Department of Emergency Services and Public "Revised Notice of Grant Award" from the Protection, Division of Emergency Management and Homeland Security, revised on January 12, 2021, DEMHS Grant # 018S151A, consisting of 2 pages (attached hereto);
- 14.** Licenses and Certifications, including State of Connecticut Department of Administrative Services Prequalification Construction Contractor certificate (incorporated by reference);
- 15.** All applicable Federal, State, and local statutes, regulations charter and ordinances (incorporated by reference);

**CITY OF WATERBURY  
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**REQUEST FOR PROPOSAL (# 7221)  
BY  
THE CITY OF WATERBURY BOARD OF EDUCATION  
FOR  
School Security Video Surveillance & Access Control  
System Expansions and Upgrades**

---

**A. Background and Intent**

The City of Waterbury's (the "City") Board of Education is seeking Proposals for **School Security Video Surveillance & Access Control System Expansions and Upgrades** (the "Project") with the intention of entering into a contract for the furnishing all labor, materials, tools and equipment necessary to execute and properly finish the Project, as detailed and described herein.

The Waterbury Public Schools will only accept proposals utilizing the two manufacturers  
Indicated below for the VSS & ACS systems to be installed into this project:

**MILESTONE – Video Surveillance System**

**S2 – Access Control System**

A request for proposal bond for ten percent (10%) of the base request for proposal cost is required and must accompany each proposal over \$50,000.00.

Request for proposals must be held firm for one hundred twenty (120) days beyond the request for proposal opening date.

The successful request for proposal must file a one hundred percent (100%) Performance Bond, a one hundred percent (100%) Labor & Materials Bond and a Certificate of Insurance with the Purchasing Agent within ten (10) days of notice of request for proposal award each proposal over \$50,000.00.

The successful respondent must have Milestone GOLD Level certification and provide proof of such certification at the time of proposal submission.

The Successful respondent must have AXIS GOLD Level Certification and provide proof of such certification at the time of proposal submission.

The Successful respondent must have S2 GOLD Level Certification and provide proof of such certification at the time of proposal submission.

**This is a prevailing wage rate Project ( attachment G).**

The Bidder shall hold a current DAS Contractor Prequalification Certificate in ALARM SYSTEMS from the Department of Administrative Services of the State of Connecticut according to C.G.S. § 4a-100, C.G.S. § 4b-101 and C.G.S. § 4b-91. Bidders shall submit with their Bids their DAS Contractor Prequalification Certificate along with a current Update Bid Statement. In addition, any named Subcontractor whose subcontract value

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is equal to or greater than \$500,000 shall hold a current DAS Contractor Prequalification Certificate in the closest applicable Classification of the work that the Subcontractor will complete in the contract. The bidder must submit with their bid, all applicable Subcontractor DAS Prequalification certificates. Any Bid submitted without a copy of the DAS Prequalification Certificate and an Update Bid Statement for the bidder and DAS Prequalification Certificates for Subcontractors whose subcontract value is equal to or greater than \$500,000 shall be invalid.

The Successful Bidder and each of its Subcontractors having subcontracts in value equal to or greater than \$500,000 shall maintain and keep current their respective DAS Contractor Prequalification Certificates at all times during the term of the Contract and any warranty period set forth in the Contract Documents.

**HOURS WORK SHALL TAKE PLACE**

1. All work shall commence and reach substantial completion as indicated within the Project Schedule.
2. 1<sup>st</sup> Shift Work:
  - a. All work related to cabling terminations, testing, system configurations and work related within the data rooms, can be performed during the 1<sup>st</sup> shift any day of the week.
3. 2<sup>nd</sup> Shift – Weekend and School Out of Session Work:
  - a. All work related to door modifications, cabling installation, coring & penetrations to walls, along any work resulting in disruptive sounds shall be performed as 2<sup>nd</sup> shift, weekends and while school is out of session.
  - b. 2<sup>nd</sup> shift hours shall commence while school is not in session. School in session hours are as followings:

|                                 |                 |
|---------------------------------|-----------------|
| • Bucks Hill Elementary         | 8:35AM – 2:50PM |
| • Gilmartin Elementary School   | 8:35AM – 2:50PM |
| • Maloney Elementary School     | 8:35AM – 2:50PM |
| • Walsh Elementary School       | 8:35AM – 2:50PM |
| • Wilson Elementary School      | 8:35AM – 2:50PM |
| • Bunker Hill Elementary School | 8:35AM – 2:50PM |
| • Adult Education School        | 7:50AM – 8:20PM |
| • Generali School               | 8:35AM – 2:50PM |
| • Crosby High School            | 7:20AM – 1:50PM |
| • Enlightenment School          | 8:35AM – 2:50PM |
| • Reed Elementary School        | 8:35AM – 2:50PM |
| • Sprague Elementary School     | 8:05AM – 2:20PM |
| • Tinker Elementary School      | 8:05AM – 2:20PM |
| • Wilby High School             | 7:20AM – 1:50PM |
| • Waterbury Arts Magnet school  | 7:20AM – 1:50PM |
4. All ceiling grid shall be reinstalled each night before the start of a school the next morning.
5. Refer to the school schedule in appendix A.

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**B. Qualifications**

Eligible Proposers will be those individuals, businesses, and institutions that have the following qualifications:

1. Experience and expertise in regard to providing the types of, or similar services, as those set forth in the Scope of Services;
2. A proven track record in providing these types of or similar services in the Connecticut municipal market and understanding of standards and requirements typical for such services;
3. Adequate staff/employees to perform/complete the work in a timely manner;
4. Knowledge of, and compliant with, all applicable federal and State laws and regulations governing the services to be provided under this RFP; and
5. At the time of contract award, has or will have sufficient capacity, facilities, equipment, labor, financial capability, and experience to provide all services required hereunder throughout the Contract Term, plus any extensions thereof, and to conduct all such services in a regulatory-compliant and reliable manner.

**C. Scope of Services**

The Scope of Services shall be in agreement with the Technical Specifications (Attachment F), attached hereto and made part of this RFP and in accordance with the terms and conditions set forth herein.

**D. Agreement Period**

Successful Proposer agrees and covenants that the Contract Time shall commence upon delivery of the City's written notice to proceed, which shall occur after contract execution by both parties. The Successful Proposer agrees further that it shall Substantially Complete all work and services required under this Contract within **SIXTY (60) consecutive calendar days** of the City's written Notice to Proceed and shall reach Final Completion within **NINETY (90) consecutive calendar days** of the City's written Notice to Proceed ("Contract Time").

**E. General Information**

1. The City is an Equal Opportunity and Affirmative Action employer and does not discriminate in its hiring, employment, or business practices. The City is committed to complying with the Americans with Disabilities Act of 1990 (ADA) and does not discriminate on the basis of disability, in admission to, access to, or operation of its programs, services or activities.

- 1. There will be a mandatory Information Session with respect to this RFP starting on March 22, 2022 at 9:00a.m. at Crosby High School 300 Pierpont Road, Waterbury, CT and ending at Wilby High School, 568 Bucks Hill Road. All fifteen schools will be toured. If all fifteen schools have not been toured by 5:00p.m. on March 22, the meeting will commence at the next school in line at 9:00a.m. on March 23, 2022.**

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**To attend this mandatory session, please call 203-574-6749 and make an appointment to attend. THOSE NOT ATTENDING THE Information Session WILL NOT BE ELIGIBLE TO SUBMIT A PROPOSAL.**

***Note: This Request for Proposal is a re-issuance of the Request for Proposal #7076 that closed on November 12, 2021 and RFP # 7118 that closed on January 10, 2022.***

***If you attended all fifteen mandatory Information Sessions for RFP #7076 or RFP# 7118, you are not required to attend the meeting on March 22, 2022.***

***If you submitted a proposal for RFP #7118 and you wish to be considered for this RFP you are REQUIRED to submit a new proposal for this new RFP# 7221.***

| NAME                         | SCHOOL ADDRESS         | SCHOOL CITY | SCHOOL PHONE | Type               |
|------------------------------|------------------------|-------------|--------------|--------------------|
| Adult Education              | 11 Draher Street       | Waterbury   | 203-574-8038 | Pre-K - 8 School   |
| Bucks Hill School            | 330 Bucks Hill Road    | Waterbury   | 203-574-8182 | Elementary School  |
| Bunker Hill School           | 170 Bunker Hill Avenue | Waterbury   | 203-574-8183 | Elementary School  |
| Crosby High School           | 300 Pierpont Rd        | Waterbury   | 203-574-8061 | High School        |
| Enlightenment School         | 58 Griggs Street       | Waterbury   | 203-574-8050 | Special Program    |
| Generali School              | 3196 East Main Street  | Waterbury   | 203-574-8174 | Elementary School  |
| Gilmartin School             | 94 Spring Lake Road    | Waterbury   | 203-574-8175 | Pre-K - 8 School   |
| Maloney School               | 233 South Elm Street   | Waterbury   | 203-574-8162 | Elementary School  |
| Reed School                  | 33 Griggs Street       | Waterbury   | 203-574-8180 | Pre-K - 8 School   |
| Sprague School               | 1448 Thomaston Avenue  | Waterbury   | 203-574-8189 | Elementary School  |
| Tinker School                | 809 Highland Avenue    | Waterbury   | 203-574-8186 | Elementary School  |
| Walsh School                 | 55 Dikeman Street      | Waterbury   | 203-574-8164 | Elementary School  |
| Wilby High School            | 460 Bucks Hill Road    | Waterbury   | 203-574-8100 | High School        |
| Wilson School                | 235 Birch Street       | Waterbury   | 203-573-6660 | Elementary School  |
| Waterbury Arts Magnet School | 16 South Elm Street    | Waterbury   | 203-573-6300 | Middle/High School |

3. Proposers must review and be prepared to sign prior to the execution of any contract with the City, the items and any forms included in Attachment A (Contract Compliance Documents) attached hereto and made part of this RFP.
4. **All questions and communications about this RFP and submission requirements must be directed to the City of Waterbury ProcureWare website and must be received by 2:00 PM on March 24<sup>th</sup>, 2022.** Prospective proposers must limit their contact regarding this RFP to Mr. McCaffery or such other person otherwise designated by Mr. McCaffery.
5. **Responses to questions submitted by the above date or identified at any Information Session to be held in regard to this RFP, along with any changes or amendments to this RFP, will be available via the City of Waterbury ProcureWare website by 2:00 PM on March 25<sup>th</sup>, 2022.**

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It shall be the responsibility of the proposer to download this information. If you have any procedural questions in this regard, please call the Purchasing Director, Mr. McCaffery, at (203) 574-6748.

**F. Management**

Any award of work resulting from this RFP will be managed by the Education IT Department and School Security Department.

**G. Conditions**

1. All those submitting proposals must be willing to adhere to the following conditions and must positively state this in the proposal:

- a. All proposals in response to this RFP are to be the sole property of the City. Proposers are encouraged not to include in their proposals any information which is proprietary. All materials associated with this procurement process are subject to the terms of state laws defining freedom of information and privacy and all rules, regulations and interpretations resulting from those laws.
- b. Any product, whether acceptable or unacceptable, developed under a contract awarded as a result of the RFP is to be the sole property of the City.
- c. The timing and sequence of events resulting from this RFP will ultimately be determined by the City.
- d. The proposer agrees that the proposal will remain valid for a period of NINETY (90) days after the closing date for the submission and may be extended beyond that time by mutual agreement.
- e. The City may amend the terms or cancel this RFP any time prior to the execution of a contract or purchase order for these services if the City deems it to be necessary, appropriate or otherwise in the best interests of the City. Failure to acknowledge receipt of amendments, in accordance with the instructions contained in the amendments, may result in a proposal not being considered. At his option, the City's Director of Purchasing may provide all proposers with a limited opportunity to remedy any technical deficiencies identified by the City in their initial review of proposals.
- f. The proposer must certify that the personnel identified in its response to this RFP will be the persons actually assigned to the project. Any additions, deletions or changes in personnel from the proposal during the course of the agreement period must be approved by the City, with the exception of personnel who have terminated employment. Replacements for personnel who have terminated employment are subject to approval by the City. At its discretion, the City may require the removal and replacement of any of the proposer's personnel who do not perform adequately, regardless of whether they were previously approved by the City.



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- g. All subcontractors hired by the proposer awarded a contract or purchase order as a result of this RFP must have prior approval of the City prior to and during the agreement period.
- h. Any costs and expenses incurred by proposers in preparing or submitting proposals are the sole responsibility of the proposer.
- i. A proposer must be prepared to present evidence of experience, ability, financial standing, and any other information deemed necessary by the City to satisfactorily meet the requirements set forth or implied in the proposal.
- j. No additions or changes to the original proposal will be allowed after submittal, except as may be allowed by the City, at its option, in accordance with Section G.1(e) of this RFP. While changes are not permitted, clarification of proposals may be required by the City at the proposer's sole cost and expense. The final price(s) and scope of services of any contract or purchase order resulting from this RFP may be negotiated with responsible proposers.
- k. The proposer may be required to give presentations to the extent necessary to satisfy the City's requirements or needs. In some cases, proposers may have to give presentations or further explanation to any RFP selection committee established by the City.
- l. The proposer represents and warrants that the proposal is not made in connection with any other proposer and is in all respects fair and without collusion or fraud. The proposer further represents and warrants that it did not participate in any part of the RFP development process, had no knowledge of the specific contents of the RFP prior to its issuance, and that no agent, representative or employee of the City participated directly in the proposer's proposal preparation.
- m. All responses to the RFP must conform to instruction. Failure to include any required signatures, provide the required number of copies, to meet deadlines, answer all questions, follow the requested format, or failure to comply with any other requirements of this RFP may be considered appropriate cause for rejection of the response.
- n. Where this RFP results in a contract, the proposer must accept the City's standard agreement language. See Attachment B.
- o. Any contract or purchase order resulting from this RFP process will represent the entire agreement between the proposer and the City and will supersede all prior negotiations, representations or agreements, alleged or made, between the parties. The City shall assume no liability for payment of services under the terms of the contract or purchase order until the successful proposer is notified that the contract or purchase order has been accepted and approved by the City. Any contract resulting from this RFP may be amended only by means of a written instrument signed by the proposer and signed by the Mayor.

**H. Submittal Requirements & Required Format**

- 1. **One original (clearly identified as such) and three (3) paper copies of the Proposal, as well as a copy of the original Proposal in pdf format on a CD or flash drive, must be received at the**

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following address no later than at **11:30 a.m. on March 31<sup>st</sup>, 2022**. No proposals received after that time shall be considered.

Mr. Kevin McCaffery  
Director of Purchasing  
City of Waterbury  
235 Grand Street, Room 103  
Waterbury, CT 06702

- a. The responsibility for submitting a Proposal to the Director of Purchasing on or before the above-stated time and date will be solely and strictly the responsibility of the Proposer. The City will in no way be responsible for delays caused by the United States mail delivery or caused by any other occurrence.
- b. Proposals must set forth accurate and complete information for each of the items listed below, and must be bound, paginated, indexed and numbered consecutively. At the City's discretion, failure to do so could result in disqualification.

**2. Each Proposal shall contain the following three (3) forms, fully completed, as follows:**

**a. Non-Collusion Affidavit and Acknowledgment Affidavit (Attachment C).**

- i. Proposers shall complete Attachment C addressed to Mr. McCaffery, which, in part, includes a statement by the proposer accepting all terms and conditions and requirements contained in the RFP, and which shall be signed by a duly authorized official of the organization submitting the proposal. Proposers shall also, as indicated in Attachment C, identify the name of a contact person, along with their telephone number, email address, if applicable, and address, who can be contacted for the purpose of clarifying the information contained in their response to this RFP.
- ii. Each Proposer shall be responsible for determining that it has received all Addenda issued and shall acknowledge receipt of all Addenda as required per Attachment C, which is attached hereto and made part of this RFP.
- iii. Each Proposer shall complete the Non-Collusion Affidavit and Acknowledgment Affidavit (Attachment C) and include it as part of the proposal submission.

**b. Price Proposal. (Attachment D)**

- i. Proposal pricing shall inclusive of all costs associated with proving the services required under this RFP, including, but not limited to all personnel and non-personnel expenses, insurance costs and permitting costs.
- ii. **The Price Proposal shall be submitted as part of the proposal submission; however, it must be submitted in a separate envelope marked "Confidential: Price Proposal."**

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- iii. Note regarding Price Proposal: *The City is exempt from the payment of excise, transportation and sales taxes imposed by the Federal Government and/or the State. Such taxes must not be included in prices.*

PRICING MUST BE SUBMITTED AS INDICATED IN ATTACHMENT D:

**c. Contractor's Qualification Statement (Attachment E).**

- i. Each Proposer shall complete the Contractor's Qualification Statement and include it as part of the proposal submission.
- ii. **Please describe your firm's qualifications, experience and capabilities as they pertain to each of the areas of qualifications listed, as well as those of the personnel to be assigned to this project.**

**3. Proposals may, at Proposer's discretion, contain the following:**

- a. Exceptions and Alternatives. Proposers wishing to take any exceptions to any requirement in the RFP shall state and explain such exceptions. The City may accept proposals which take exception to any requirements in this RFP, or which offer any alternative to a requirement herein, as well as consider such exceptions and alternatives in evaluating responses. Any exception or alternative must be clearly delineated and cannot materially affect the substance of this RFP.
- b. Additional Data. Any additional information which the proposer wishes to bring to the attention of the City that is relevant to this RFP, including any services expected of the City.

**I. Evaluation of Proposals; Selection Process**

**1. Evaluation Criteria**

The following criteria are expected to be among those utilized in the selection process. They are presented as a guide for the proposer in understanding the City's requirements and expectations for this project and are not necessarily all inclusive or presented in order of importance.

- a. Quality, completeness and responsiveness of Proposal.
- b. Experience, expertise, and capabilities of the proposer. Background, qualifications, and previous experience of personnel to be assigned to the project and their demonstrated competence, experience and expertise in the type of work to be performed. The type of experience, expertise, capabilities, and qualifications desired are outlined in - Qualifications of this RFP.
- c. Financial strength of Proposer.
- d. Time, Project and Cost Schedule. Emphasis will be on the proposer's record with completing tasks and producing the necessary products within required timeframes and within budget.

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**2. Selection Process**

- a. The City will have the proposals evaluated by a committee as part of making a selection. If deemed necessary, the City reserves the right to arrange for interviews/oral presentations as part of the selection process, which invitations for interviews may involve a short-listing of the proposals received.

**J. Rights Reserved To The City**

- a. The City reserves the right to award in part, to reject any and all proposals in whole or in part for misrepresentation or if the proposer is in default of any prior City contract, or if the proposal limits or modifies any of the terms and conditions and/or specifications of the RFP. The City also reserves the right to waive technical defects, irregularities and omissions if, in its judgment, the best interest of the City will be served.
- b. **Nothing in this RFP shall require that the City accept the lowest Price Proposal (Attachment D).** Instead, the City reserves the right to base its decision solely, in its own judgment, on what it determines to be in the best interests of the City.

**K. Federal, State and Local Employment Requirement**

Proposers, if applicable, shall be obligated to fully comply with the Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects, i.e. City of Waterbury Ordinances Chapter 34 (“Good Jobs Ordinance”), Federal Davis- Bacon Act, Federal American Recovery and Reinvestment Act of 2009, and the Housing and Urban Development Section 3 Clause, all as further specified in the attached City of Waterbury Contract form.

**L. State Set-Aside Requirements-**

The contractor who is selected to perform this municipal public works project, funded in whole or part by the State, must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. An Affirmative Action Plan must be filed with and approved by the Commission on Human Rights and Opportunities prior to the commencement of construction.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (“DAS”) under the provisions of CONN. GEN. STAT. § 4a-60g, as amended. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at [http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav\\_GID=1806](http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806)

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**M. Insurance Requirements**

With respect to performance of work under this RFP, the Successful Proposer shall not commence any work resulting from this RFP until all insurance required herein has been obtained by the Successful Proposer and such insurance has been approved by the City. The Successful Proposer shall not allow any subcontractor to commence work on any subcontract until all insurance required of any such subcontractor has been so obtained and approved by the City. Insurance shall be provided by insurers that are satisfactory to the City, authorized to do business in the State of Connecticut, that have at least an "A-" Best's Rating, and are in an A.M. Best financial size category of VII or higher. The A.M. Best classifications are based on the most current A.M. Best Company ratings or an equivalent City approved rating system.

At no additional cost to the City, the Successful Proposer shall purchase and maintain the insurance coverages set forth below which shall protect the City from claims which may arise out of or result from the Successful Proposer's obligation resulting from this RFP, whether such obligations are the Successful Proposer's or subcontractor or person or entity directly or indirectly employed by said Successful Proposer or subcontractor, or by any person or entity for whose acts said Successful Proposer or subcontractor may be liable.

Each insurance policy shall state that the insurance company shall agree to investigate and defend the insured against all claims for damages, even if groundless. If any insurance required herein is to be issued or renewed on a claims made form as opposed to an occurrence form, the retroactive date for coverage shall be no later than the commencement date of any contract or issuance of any purchase order resulting from this RFP and shall provide that in the event of cancellation or non-renewal, the discovery period for insurance claims ("Tail Coverage") shall be available for at least 60 months.

General Liability:

- \$1,000,000 each Occurrence
- \$2,000,000 General Aggregate
- \$2,000,000 Products/Completed Operations Aggregate

Providing coverage to protect the City for all damages arising out of bodily injuries, sickness to or death of all persons in any one accident or occurrence and for all damages arising out of destruction of property in any one accident or occurrence.

Auto Liability:

- \$1,000,000 Combined Single Limit Each Accident
- Any Auto, All Owned and Hired Autos

Providing coverage to protect the City with respect to claims for damage for bodily injury and/or property damage arising out of ownership, maintenance, operation, use or loading and unloading of any auto including hired & non-owned autos.

Workers Compensation: WC Statutory Limits:

- Employers' Liability (EL):
- \$1,000,000 EL Each Accident
- \$1,000,000 EL Disease Each Employee

**CITY OF WATERBURY  
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\$1,000,000 EL Disease Policy Limit

Successful Proposer shall comply with all State of Connecticut statutes as it relates to workers' compensation.

Excess/Umbrella Liability Insurance:

\$1,000,000 each Occurrence

\$1,000,000 Aggregate

Excess or Umbrella insurance coverage that follows form or sits over General Liability, Automobile Liability and Workers Compensation insurances.

Cyber/Privacy/Network:

\$ 1,000,000.00

Failure to Maintain Insurance: In the event the Successful Proposer fails to maintain the minimum required coverage as set forth herein, the City may at its option purchase same, and offset the Successful Proposer's invoices for the cost of said insurance.

Cancellation: The City of Waterbury shall receive written notice of cancellation from the Successful Proposer at least thirty (30) calendar days prior to the date of actual cancellation, regardless of the reason for such cancellation.

Certificates of Insurance: The Successful Proposer's General, Automobile, and Excess/Umbrella Liability Insurance policies shall be endorsed to add the City as an additional insured and include a waiver of subrogation on all lines of coverage. The insurance afforded the additional insured shall be primary and non-contributory insurance and the coverage and limits provided under the Successful Proposer's policies shall not be reduced or prorated by the existence of any other insurance applicable to any loss the additional insured may have suffered. Prior to the issuance of a Purchase Order and/or execution of a Contract by the City, the Successful Proposer shall furnish to the City, subject to City approval, certificate(s) of insurance and Additional Insured Endorsement and Waiver of Subrogation Endorsement verifying the above coverages, including the naming of the City of Waterbury, as follows: **"The City of Waterbury and Waterbury Board of Education is listed as additional insured on a primary and non-contributory basis on all lines of coverage except Workers' Compensation. All policies shall include a Waiver of Subrogation"**. The City's RFP Number must be shown on the certificate of insurance to assure correct filing. The Successful Proposer must supply replacement/renewal certificates at least 30 days prior to the expiration of the policy(ies). Said certificates shall contain a provision that coverage afforded under the policies shall not be cancelled or reduced for any reasons unless notice of than thirty (30) calendar days has been mailed to the Public Works Department and a copy to the City's Office of Corporation Counsel, 235 Grand Street, Waterbury, CT 06702.

No later than thirty (30) calendar days after Successful Proposer receipt, the Successful Proposer shall deliver to the City a copy of the Successful Proposer's insurance policies, endorsements, and riders.

**N. City of Waterbury Contract Form/RFP Documents**

- a. All references in this RFP and/or in the attached City of Waterbury Contract form (Attachment B) to "Invitation to Request for proposal," "ITB" or words/terms of similar import shall, for

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the purposes of this solicitation, mean “Request for Proposal” and/or “RFP” as the context so requires. Additionally, all references therein to “Request for proposal” shall mean “Proposal” as the context so requires.

- b. All references in this RFP and/or in the attached City of Waterbury Contract form (Attachment B) to “Contractor”, Vendor” and/or “Consultant” shall mean “Proposer” or “Successful Proposer” as the context so requires.
- c. All references in this RFP and/or in the attached City of Waterbury Contract form (Attachment B) to “Request for proposal” or “Request for proposal Form” shall mean “Price Proposal “as the context so requires.

**O. Performance/Payment Bonds**

Proposer’s attention is directed to Section 10 of the attached City of Waterbury Contract form. The Proposer to whom a contract is offered, must furnish to the City, if that contract has a total cost greater than \$50,000, a 100 percent Performance Bond and a 100 percent Payment Bond each with surety company acceptable to the City and in a form acceptable to the City.

**P. Proposal Security**

Each proposal over \$50,000 shall be accompanied by Security (a Certified Check or Bond) in the amount of ten (10) percent of the Proposal amount.

**Q. CT-DAS Contractor Prequalification Requirements**

- a. This RFP is subject to Connecticut Department of Administration Services (DAS”) Contractor Prequalification requirements.
- b. Each Proposer shall include it as part of its Proposal submission an Update (Bid) Statement and a current “DAS Contractor Prequalification Certificate” (not a predetermination letter) from the DAS. Anticipated Prequalification classification are as follows:

|                  |   |
|------------------|---|
| ALARM<br>SYSTEMS | Installation, renovation, repair and maintenance of low voltage fire protection, security and other types of alarm systems. |
|------------------|---|

**MAUREEN McCAULEY**  
ASSISTANT DIRECTOR OF PURCHASING



OFFICE OF THE DIRECTOR OF PURCHASING  
**THE CITY OF WATERBURY**  
CONNECTICUT

**ADDENDUM #1**

**March 25, 2022**

**RFP 7221 School Security Video Surveillance & Access Control System Expansions and Upgrades**

**Please refer to the questions and answers below.**

**Question:** Is this a rebid of 7118? If yes, why is it rebidding?

**Answer:** Yes, We are rebidding because it was determined that the project specifications that detailed the work that needed to be done were mistakenly omitted from the RFP 7118 package.

**Question:** The bid calls for Axis P3715-PLVE, these are dual head cameras that do not fit on the mounts specified. Please clarify what camera and what mounting equipment is required for exterior 360 cameras?

**Answer:** AXIS T91B51 Ceiling Mount or Axis Communications T91L61 Wall-and-Pole Mount.  
(Depending on application).

**Question:** The Spec calls for Aiphone IX-MV master stations but Page 174 calls for IX-MV7-HB, which model is required on this project?

**Answer:** Model IX-MV7-HB Aiphone.

**Question:** Is conduit required in the high ceiling areas where presently the wiring is exposed?

**Answer:** Yes, any exposed wiring needs to be in a conduit.

**Question:** If a ceiling or wall tile is found to be asbestos, how do we proceed?

**Answer:** Notify the School Inspectors Office (203-574-8013) immediately.



**Question:** The rear door frame at Adult Education is rotted and damaged, will this be repaired/replaced before the project begins?

**Answer:** The door frame will be assessed by our internal team and if a repair or replacement is required it will be addressed prior to the start of the project in that location.

**Question:** One of the door frames at Tinker School is rotted and damaged, will this be repaired/replaced before the project begins?

**Answer:** The door frame will be assessed by our internal team and if a repair or replacement is required it will be addressed prior to the start of the project in that location.

**Thank you.**

**Maureen McCauley**

**Assistant Director of Purchasing – City of Waterbury**

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**RFP # 7221**

**ATTACHMENT D**

**Price Proposal**

**(Must be submitted as part of Proposal in a separate sealed envelope, marked  
"Confidential: Price Proposal.")**

Date: March 31, 2022

Kevin McCaffery  
Director of Purchasing  
City of Waterbury  
235 Grand Street  
Waterbury, CT 06702

Sir:

Pursuant to and in compliance with your RFP, the Undersigned,

Environmental Systems Corp.

(Print or Type Company/Corporate Name)

18 Jansen Court, West Hartford, CT 06110

(Print or Type Business Address)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

having carefully examined all the RFP Documents, together with all Addenda, as acknowledged on Attachment C, and having informed itself fully in regard to all conditions and related requirements pertaining to the performance of services required under this RFP; and that with this representation, the undersigned makes this Proposal, as follows:

Furnishing, installation and configuration to include Security expansion and upgrades consisting of the Video Surveillance and Access Control Systems to the Waterbury Public Schools as stated within this Request for proposal Manual

All request for proposals shall include freight, installation configuration, testing and training as further defined within this Request for proposal Manual. We understand that the City of Waterbury is tax exempt.

**THIS IS A PREVAILING WAGE RATE PROJECT (ATTACHMENT G)**

The undersigned proposes and agrees to provide and install a complete video surveillance system for Waterbury Public Schools in Waterbury, Connecticut, required by and in strict accordance with this Request

**Waterbury Public Schools reserves the right in its sole discretion to accept any portion or group of items or services offered in the request for proposal, or accept none.**

**PRICING #1:** Provide a lump sum price for a complete VSS & ACS system furnished and installed into:

1. Bucks Hill Elementary School
2. Bunker Hill Elementary School
3. Maloney Elementary School
4. Gilmartin Elementary School
5. Walsh Elementary School
6. Wilson Elementary School
7. Adult Education School
8. Crosby High School
9. Generali Elementary School
10. Enlightenment School
11. Reed Elementary School
12. Sprague Elementary School
13. Tinker Elementary School
14. Wilby High School
15. Waterbury Arts Magnet School

REQUEST FOR PROPOSAL AMOUNT (\$ 1,683,052 .00)

**PRICING #2:** Provide Unit Pricing PER SCHOOL for a complete VSS & ACS system furnished and installed into each school separately:

**Bucks Hill Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 113,579 .00)

**Maloney Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 104,315 .00)

**Gilmartin Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 138,447 .00)

**Walsh Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 98,702 .00)

**Wilson Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 91,881 .00)

**Adult Education School**

REQUEST FOR PROPOSAL AMOUNT (\$ 82,871 .00)

**Crosby High School**

REQUEST FOR PROPOSAL AMOUNT (\$ 174,013 .00)

**Bunker Hill Elementary School**

REQUEST FOR PROPOSAL AMOUNT (\$ 91,278 .00)

**Generali Elementary**

REQUEST FOR PROPOSAL AMOUNT (\$ 119,282 .00)



**Enlightenment School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 76,263 .00)

**Reed Elementary School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 122,554 .00)

**Sprague Elementary School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 120,451 .00)

**Tinker Elementary School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 103,972 .00)

**Wilby High School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 152,716 .00)

**Waterbury Arts Magnet School**  
REQUEST FOR PROPOSAL AMOUNT (\$ 92,728 .00)

**PRICING #3:** Provide ADD/DEDUCT Unit Price to procure & install the following cameras, include all configurations onto the server/storage devices, licensing and testing.

| Model               | Part number | Add Price | Deduct Price |
|---------------------|-------------|-----------|--------------|
| AXIS P1448-LE       | 01055-001   | \$1,894   | \$1,515      |
| AXIS Q3517-LVE      | 01022-001   | \$2,169   | \$1,735      |
| AXIS M3206-LVE      | 01518-001   | \$1,570   | \$1,256      |
| AXIS Q6155-E 60 Hz  | 0934-004    | \$3,779   | \$3,022      |
| AXIS P3807-PVE      | 01048-004   | \$2,202   | \$1,761      |
| AXIS Q6100-E 60 Hz  | 01711-001   | \$2,376   | \$1,900      |
| AXIS P3717-PLE      | -           | \$2,167   | \$1,734      |
| AXIS Q6135-LE 60 Hz | 01959-004   | \$3,181   | \$2,545      |
| AXIS P3719-PLE      | 01500-001   | \$2,348   | \$1,878      |
| AXIS I8016-LVE      | 01995-001   | \$2,030   | \$1,624      |
| AXIS P3245-LVE 9 mm | 01593-001   | \$1,662   | \$1,330      |
| AXIS Q1785-LE       | 01161-001   | \$2,122   | \$1,698      |
| AXIS P3245-LV       | 01592-001   | \$1,755   | \$1,404      |
| AXIS Q3819-PVE      | 01819-001   | \$2,740   | \$2,192      |
| AXIS M3058-PLVE     | 01178-001   | \$1,727   | \$1,382      |
| AXIS P3715-PLVE     | 01970-001   | \$1,775   | \$1,420      |

|                |           |         |         |
|----------------|-----------|---------|---------|
| AXIS Q3518-LVE | 01493-001 | \$2,560 | \$1,808 |
| AXIS M3115-LVE | 01604-001 | \$1,291 | \$1,033 |

**PRICING #7: Provide Unit Price to procure & install the following:**

SPOT Monitor & CPU and all associated cabling and mounting devices \$3,619

Provide Unit Price to furnish & install 50 linear feet of 3/4" EMT conduit . \$1,921

Aiphone Intercom Door Station as Specified: \$1,834

Furnish, install, terminate both ends & test 300' of qty (1) Cat 6, Plenum rated cable \$575

**END OF ATTACHMENT D**

PATHWAYS FOR SECURITY SYSTEMS

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## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Drawings
  - 1. "Y" Drawings – Technology Plans
- C. Related Sections:
  - 1. Section 271500 – "Communication Horizontal"
  - 2. Section 280500 – "Security Conductor Cables"
  - 3. Section 281300 – "Access Controls"
  - 4. Section 282300 – "Video Surveillance"

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Metal conduits and fittings.
  - 2. Nonmetallic conduits and fittings.
  - 3. Optical-fiber-cable pathways and fittings.
  - 4. Metal wireways and auxiliary gutters.
  - 5. Nonmetallic wireways and auxiliary gutters.
  - 6. Surface pathways.
  - 7. Boxes, enclosures, and cabinets.
  - 8. Handholes and boxes for exterior underground cabling.

## 1.3 DEFINITIONS

- A. ARC: Aluminum rigid conduit.
- B. GRC: Galvanized rigid steel conduit.
- C. IMC: Intermediate metal conduit.

## 1.4 ACTION SUBMITTALS

- A. Product Data: For surface pathways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. HPBS Submittals:

1. Product Data for Section 16a-38k-5(d): For solvent cements and adhesive primers, documentation including printed statement of VOC content.
- C. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Pathway routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
  1. Structural members in paths of pathway groups with common supports.
  2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- B. Qualification Data: For professional engineer.
- C. Seismic Qualification Certificates: For pathway racks, enclosures, cabinets, equipment racks and their mounting provisions, including those for internal components, from manufacturer.
  1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
  2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  3. Detailed description of equipment anchorage devices on which certification is based and their installation requirements.
  4. Detailed description of conduit support devices and interconnections on which certification is based and their installation requirements.
- D. Source quality-control reports.

## PART 2 - PRODUCTS

### 2.1 METAL CONDUITS AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. AFC Cable Systems, Inc.
  2. Allied Tube & Conduit; a Tyco International Ltd. Co.
  3. Alpha Wire Company
  4. Anamet Electrical, Inc.
  5. Electri-Flex Company
  6. O-Z/Gedney; a brand of EGS Electrical Group
  7. Picoma Industries; Subsidiary of Mueller Water Products, Inc.
  8. Republic Conduit
  9. Robroy Industries
  10. Southwire Company

11. Thomas & Betts Corporation
12. Western Tube and Conduit Corporation
13. Wheatland Tube Company; a division of John Maneely Company

B. General Requirements for Metal Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

C. GRC: Comply with ANSI C80.1 and UL 6.

D. ARC: Comply with ANSI C80.5 and UL 6A.

E. IMC: Comply with ANSI C80.6 and UL 1242.

F. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.

1. Comply with NEMA RN 1.
2. Coating Thickness: 0.040 inch minimum.

G. EMT: Comply with ANSI C80.3 and UL 797.

H. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
2. Fittings for EMT:
  - a. Material: Steel.
  - b. Type: Setscrew.
3. Expansion Fittings: PVC or steel to match conduit type, complying with UL-467, rated for environmental conditions where installed, and including flexible external bonding jumper.
4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.

I. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

## 2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems, Inc.
2. Allied Tube & Conduit; a Tyco International Ltd. Co.



3. Anamet Electrical, Inc.
4. Arnco Corporation
5. CANTEX Inc.
6. CertainTeed Corp.
7. Condux International, Inc.
8. Electri-Flex Company
9. Kraloy
10. Lamson & Sessions; Carlon Electrical Products
11. Niedax-Kleinhuis USA, Inc.
12. RACO; a Hubbell company
13. Thomas & Betts Corporation

B. General Requirements for Nonmetallic Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

C. RNC: Type EPC-40-PVC complying with NEMA TC 2 and UL 651 unless otherwise indicated.

D. Rigid HDPE: Comply with UL 651A.

E. Continuous HDPE: Comply with UL 651B.

F. RTRC: Comply with UL 1684A and NEMA TC 14.

G. Fittings for RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.

H. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.3 OPTICAL-FIBER-CABLE PATHWAYS AND FITTINGS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alpha Wire Company
2. Arnco Corporation.
3. Endot Industries Inc.
4. IPEX
5. Lamson & Sessions; Carlon Electrical Products

B. Description: Comply with UL 2024; flexible-type pathway, approved for plenum installation unless otherwise indicated.

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Comply with TIA-569-B.

## 2.4 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Cooper B-Line, Inc.
  - 2. Hoffman; a Pentair company
  - 3. Mono-Systems, Inc.
  - 4. Square D; a brand of Schneider Electric
- B. Description: Sheet metal, complying with UL 870 and NEMA 250 and sized according to NFPA 70.
  - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - 2. Comply with TIA-569-B.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Screw-cover type unless otherwise indicated.
- E. Finish: Manufacturer's standard enamel finish.

## 2.5 NONMETALLIC WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Allied Moulded Products, Inc.
  - 2. Hoffman; a Pentair company
  - 3. Lamson & Sessions; Carlon Electrical Products
  - 4. Niedax-Kleinhuis USA, Inc.
- B. General Requirements for Nonmetallic Wireways and Auxiliary Gutters:
  - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - 2. Comply with TIA-569-B.
- C. Description: Fiberglass polyester, extruded and fabricated to required size and shape, without holes or knockouts. Cover shall be gasketed with oil-resistant gasket material and fastened with captive screws treated for corrosion resistance. Connections shall be flanged and have stainless-steel screws and oil-resistant gaskets.
- D. Description: PVC, extruded and fabricated to required size and shape, and having snap-on cover, mechanically coupled connections, and plastic fasteners.

- E. Fittings and Accessories: Couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings shall match and mate with wireways as required for complete system.
- F. Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or less, respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.6 SURFACE PATHWAYS

- A. General Requirements for Surface Pathways:
  - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - 2. Comply with TIA-569-B.
- B. Surface Metal Pathways: Galvanized steel with snap-on covers complying with UL 5. Manufacturer's standard enamel finish in color selected by Architect.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:
    - a. Mono-Systems, Inc.
    - b. Niedax-Kleinhuis USA, Inc.
    - c. Panduit Corp
    - d. Wiremold/Legrand
- C. Surface Nonmetallic Pathways: Two- or three-piece construction, complying with UL 5A, and manufactured of rigid PVC with texture and color selected by Architect from manufacturer's standard colors. Product shall comply with UL-94 V-0 requirements for self-extinguishing characteristics.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Hubbell Incorporated; Wiring Device-Kellems Division
    - b. Lamson & Sessions; Carlon Electrical Products
    - c. Mono-Systems, Inc.
    - d. Panduit Corp.
    - e. Wiremold/Legrand

## 2.7 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Adalet
  - 2. Cooper Technologies Company; Cooper Crouse-Hinds
  - 3. EGS/Appleton Electric

4. Erickson Electrical Equipment Company
5. Hoffman; a Pentair company
6. Hubbell Incorporated; Killark Division
7. Lamson & Sessions; Carlon Electrical Products
8. Milbank Manufacturing Co.
9. Molex; Woodhead Brand
10. Mono-Systems, Inc.
11. O-Z/Gedney; a brand of EGS Electrical Group
12. RACO; a Hubbell company
13. Robroy Industries
14. Spring City Electrical Manufacturing Company
15. Stahlin Non-Metallic Enclosures; a division of Robroy Industries
16. Thomas & Betts Corporation
17. Wiremold/LeGrand

B. General Requirements for Boxes, Enclosures, and Cabinets:

1. Comply with TIA-569-B.
2. Boxes, enclosures and cabinets installed in wet locations shall be listed for use in wet locations.

C. Sheet-Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, aluminum, Type FD, with gasketed cover.

E. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

F. Metal Floor Boxes:

1. Material: Cast metal.
2. Type: Fully adjustable.
3. Shape: Rectangular.
4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Nonmetallic Floor Boxes: Nonadjustable, rectangular.

1. Listing and Labeling: Nonmetallic floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

H. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

I. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.

- J. Device Box Dimensions: as specified within the Architectural drawings.
- K. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
- L. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, with continuous-hinge cover with flush latch unless otherwise indicated.
  - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
  - 2. Nonmetallic Enclosures:
    - a. Material: Plastic.
    - b. Finished inside with radio-frequency-resistant paint.
  - 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

### PART 3 - EXECUTION

#### 3.1 PATHWAY APPLICATION

- A. Indoors: Apply pathway products as specified below unless otherwise indicated:
  - 1. Exposed, Not Subject to Physical Damage: EMT.
  - 2. Exposed, Not Subject to Severe Physical Damage: EMT.
  - 3. Exposed and Subject to Severe Physical Damage: GRC. Pathway locations include the following:
    - a. Loading dock.
    - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    - c. Mechanical rooms.
    - d. Gymnasiums.
  - 4. Concealed in Ceilings and Interior Walls and Partitions: EMT. Allow plenum cable in j-hooks or cable tray.
  - 5. Damp or Wet Locations: GRC.
  - 6. Pathways for Optical-Fiber or Communications Cable in Spaces Used for Environmental Air: Plenum-type, optical-fiber-cable pathway.
  - 7. Pathways for Concealed General-Purpose Distribution of Optical-Fiber or Communications Cable: Plenum-type, optical-fiber-cable pathway.
  - 8. Boxes and Enclosures: NEMA 250 Type 1, except use NEMA 250 Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- B. Minimum Pathway Size: ¾-inch trade size. Minimum size for optical-fiber cables is 1 inch.
- C. Pathway Fittings: Compatible with pathways and suitable for use and location.
  - 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.

2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
  3. EMT: Use setscrew or compression, cast-metal fittings. Comply with NEMA FB 2.10.
- D. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- E. Install surface pathways only where indicated on Drawings.
- F. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg.

### 3.2 INSTALLATION

- A. Comply with NECA 1, NECA 101, and TIA-569-B for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum pathways. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies and number of floors.
- B. Keep pathways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal pathway runs above water and steam piping.
- C. Complete pathway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of two (2) 90-degree bends in any pathway run. Support within 12 inches of changes in direction. Utilize long radius ells for all optical-fiber cables.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Pathways Embedded in Slabs:
  1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure pathways to reinforcement at maximum 10-foot intervals.
  2. Arrange pathways to cross building expansion joints at right angles with expansion fittings.
  3. Arrange pathways to keep a minimum of 2 inches of concrete cover in all directions.
  4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
  5. Change from ENT to RNC, Type EPC-40-PVC before rising above floor.



- J. Stub-ups to Above Recessed Ceilings:
1. Use EMT, IMC, or RMC for pathways.
  2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of pathway and fittings before making up joints. Follow compound manufacturer's written instructions.
- L. Coat field-cut threads on PVC-coated pathway with a corrosion-preventing conductive compound prior to assembly.
- M. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.
- N. Install pathways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus  $\frac{1}{4}$  turn more.
- O. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- P. Cut conduit perpendicular to the length. For conduits of 2-inch trade size and larger, use roll cutter or a guide to ensure cut is straight and perpendicular to the length.
- Q. Install pull wires in empty pathways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground pathways designated as spare above grade alongside pathways in use.
- R. Surface Pathways:
1. Install surface pathway for surface telecommunications outlet boxes only where indicated on Drawings.
  2. Install surface pathway with a minimum 2-inch radius control at bend points.
  3. Secure surface pathway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight pathway section. Support surface pathway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- S. Pathways for Optical-Fiber and Communications Cable: Install pathways, metal and nonmetallic, rigid and flexible, as follows:
1.  $\frac{3}{4}$ -Inch Trade Size and Smaller: Install pathways in maximum lengths of 50 feet.
  2. 1-Inch Trade Size and Larger: Install pathways in maximum lengths of 75 feet.
  3. Install with a maximum of two (2) 90-degree bends or equivalent for each length of pathway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.

- T. Install pathway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed pathways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install pathway sealing fittings according to NFPA 70.
- U. Install devices to seal pathway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all pathways at the following points:
1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
  2. Where an underground service pathway enters a building or structure.
  3. Where otherwise required by NFPA 70.
- V. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.
- W. Expansion-Joint Fittings:
1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F, and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
  2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
    - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
    - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
    - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
    - d. Attics: 135 deg F temperature change.
  3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
  4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
  5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- X. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- Y. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surface to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.



- Z. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
  - AA. Support boxes of three (3) gangs or more from more than one (1) side by spanning two (2) framing members or mounting on brackets specifically designed for the purpose.
  - BB. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
  - CC. Set metal floor boxes level and flush with finished floor surface.
  - DD. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.
- 3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR COMMUNICATIONS PENETRATIONS
- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 270544 "Sleeves and Sleeve Seals for Communications Pathways and Cabling."
- 3.4 FIRESTOPPING
- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."
- 3.5 PROTECTION
- A. Protect coatings, finishes, and cabinets from damage or deterioration.
    - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
    - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

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END OF SECTION 28 05 28

VIDEO SURVEILLANCE SYSTEM

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PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Video Surveillance Cameras
- B. Video Surveillance Management Software: **MILESTONE XPROTECT PROFESSIONAL+**
- C. Network Video Server
- D. Network Storage Device
- E. Monitor

1.2 RELATED DOCUMENTS

- A. Related Drawings:
  - 1. “Y” Drawings – Security Plans
- B. Related Section:
  - 1. 270528 Pathways for Communications Systems
  - 2. 271500 Communicaton Horizontal
  - 3. 281300 Access Controls System

1.3 SUMMARY

- A. The contractor awarded this project shall provide a Milestone XPROTECT PROFESSIONAL+ Solution for the following schools:
  - 1. Bucks Hill Elementary School
  - 2. Maloney Elementary School
  - 3. Gilmartin Elementary School
  - 4. Walsh Elementary School
  - 5. Wilson Elementary School
  - 6. Adult Education School
  - 7. Crosby High School
  - 8. Bunker Hill Elementary School
  - 9. Generali Elementary School
  - 10. Enlightenment School
  - 11. Reed Elementary School
  - 12. Sprague Elementary School
  - 13. Tinker Elementary School
  - 14. Wilby High School
- B. The contractor shall provide all cameras, cabling, licenses, and management / recording servers for the above-mentioned schools & facilities.

- C. The contractor is responsible for **integrating existing cameras** into the Milestone solution at each school. The contractor shall include the existing and new cameras while calculating the storage and management server. The recording and management server shall be properly sized to accommodate all requirements listed within this specification and the drawing package.
- D. Refer to section 2.3 of this specification for existing IP camera quantities.
- E. **Each school shall record and store video for 30 days, at which point the signal will roll-over to the new solution at**
- F. The contractor awarded this project shall return all existing NVR's and replaced cameras to the owner at the completion of the installation process.
- G. The contractor awarded this project is responsible for cleaning, re-aiming, and re-focusing all existing cameras for the schools listed in this specification. Refer to section 2.3 for existing camera quantities.
- H. This Video surveillance system described within this specification shall be fully integrated with the monitoring and access control systems. Complete interface, including user access and browser interface to the access control platform is the responsibility of the bidding contractor of this section.
- I. All installation of each product specified within this document, peripheral devices, required licensing and configurations are required as part of this specification to establish a coherent, functional system as described within this bid package.
- J. Data Cabling: Category 6 Plenum rated cabling shall be furnished, installed and tested and is required as part of this bid specification.
- K. System Functionality Overview:
  - 1. System shall provide high-quality delivery and processing of IP-based video and control data using standard Ethernet-based networks.
  - 2. System shall have seamless integration of all video surveillance and control functions.
  - 3. Graphical user interface software shall manage all IP-based video matrix switching and camera control functions and recording and archive/retrieval management. IP system shall also be capable of integrating into larger system environments.
  - 4. System design shall include all necessary compression software for high-performance, dual-stream, Motion JPEG and H.264 video.
  - 5. All camera signals shall be compressed to H.264, encoded, and delivered onto the network for processing and control by the IP video-management software.
  - 6. Camera system units shall be ruggedly built and designed for extreme adverse environments, complying with NEMA Type environmental standards.
  - 7. **The Camera's recorded images shall include masking of the unwanted areas within each camera view to minimize storage space. These recorded images shall be defined with the Owner and technology consultant.**
  - 8. Configuration of the Video Server to utilize two (2) Ethernet connections and Network Interface cards; one (1) for incoming video and recording and one (1) to send recorded video to the storage device.
  - 9. Video management software shall be configured for the following.

- a. Recorded Video Compression Rate: H.264
  - b. Frame Recorded Per Second: Fifteen (15).
  - c. Resolution should be set at the highest obtainable from each camera specified.
  - d. Stored data shall be saved for thirty (30) calendar days.
  - e. Interior cameras shall record eighteen (18) hours per day.
  - f. Exterior cameras shall record twenty-four (24) hours per day.
  - g. Each camera "Field of View" shall be set up with the assistance of the Owner and/or the Technology consultant.
- L. Surge Protection: Protect components from voltage surges originating external to equipment housing and entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor's entry connection to components.

#### 1.4 SYSTEM CONFIGURATIONS – OVERVIEW

- A. All system configuration(s) shall be included to attain a fully functional system and shall be within the Scope of work of the awarded Contractor of this section. This configuration shall include but not be limited to the following:
- 1. Configuration of all cameras to be managed via the Video Management software.
  - 2. Configuration of Video Surveillance Server to view/record/access all cameras.
  - 3. Configuration of video storage devices with the server.
  - 4. Configuration of the Video Server.
  - 5. Configuration of LAN switches – Active Electronics, as related to the systems specified within this document. Including VLANS and IP addressing shall be as indicated by the Owner.
  - 6. Configuration of the VMS & Access Control managed software to:
    - a. Allow complete interface between both platforms
    - b. Allow Access Control to access and view all video surveillance cameras.
    - c. Allow access and controlled network management system with Web and Internet access of the Video Surveillance system.

#### 1.5 DEFINITIONS

- A. AGC: Automatic gain control.
- B. BNC: Bayonet Neill-Concelman – type of connector.
- C. B/W: Black and white.
- D. CCD: Charge-coupled device.
- E. FTP: File transfer protocol.
- F. IP: Internet protocol.
- G. LAN: Local area network.
- H. WAN: Wide area network.

- I. H.264: Standard for Video Compression
- J. M-JPEG: Motion JPEG
- K. NTSC: National Television System Committee.
- L. PC: Personal computer.
- M. PTZ: Pan-Tilt-Zoom.
- N. RAID: Redundant array of independent disks.
- O. TCP: Transmission control protocol – connects hosts on the Internet.
- P. UPS: Uninterruptible power supply.

## 1.6 SUBMITTALS

- A. Product Data: For each type of product indicated. Include dimensions and data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For video surveillance. Include plans, elevations, sections, details, and attachments to other work.
  - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  - 2. Functional Block Diagram: Show single-line interconnections between components for signal transmission and control. Show cable types and sizes.
  - 3. Dimensioned plan and elevations of equipment racks, control panels, and consoles. Show access and workspace requirements.
  - 4. Wiring Diagrams: For power, signal, and control wiring.
- C. Equipment List: Include every piece of equipment by model number, manufacturer, serial number, location, and date of original installation. Add pretesting record of each piece of equipment, listing name of person testing, date of test, set points of adjustments, name and description of the view of preset positions, description of alarms, and description of unit output responses to an alarm.
- D. Field quality-control reports.
- E. Operation and Maintenance Data: For cameras, power supplies, infrared illuminators, monitors, videotape recorders, digital video recorders, video switches, and control-station components to include in emergency, operation, and maintenance manuals.
- F. Warranty: Sample of special warranty.

## 1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- B. Comply with NECA 1.
- C. Comply with NFPA 70.
- D. Electronic data exchange between video surveillance system with an access-control system shall comply with SIA TVAC.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:
  - 1. Interior, Controlled Environment: System components installed in temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F (2 to 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, noncondensing. Use NEMA 250, Type 1 enclosures.
  - 2. Interior, Uncontrolled Environment: System components installed in non- temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F (minus 18 to plus 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, noncondensing. Use NEMA 250, Type 3R enclosures.
  - 3. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F (minus 34 to plus 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 85 mph and snow cover up to 24 inches thick. Use sufficiently rated NEMA 250 enclosures.
  - 4. Hazardous Environment: System components located in areas where fire or explosion hazards may exist because of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers shall be rated, listed, and installed according to NFPA 70.
  - 5. Corrosive Environment: System components subject to corrosive fumes, vapors, and wind-driven salt spray in coastal zones. Use sufficiently rated NEMA 250 enclosures.
  - 6. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

#### 1.9 BIDDING CONTRACTOR QUALIFICATIONS

- A. The Contractor shall be a certified and trained installer of each product specified within this document.
- B. The VMS software vendor shall be a certified partner, whereby training and certification programs shall qualify the suitability of the installers. The vendor shall provide various levels of training including advanced training to the Owner.

#### 1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three (3) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 CAMERAS

- A. Manufacturer: The selected manufacturer shall be AXIS Communications:
- B. Refer to drawings for exact camera quantities, models, and locations.
- C. Camera Model Numbers:

| Model               | Part number |
|---------------------|-------------|
| AXIS P1448-LE       | 01055-001   |
| AXIS Q3517-LVE      | 01022-001   |
| AXIS M3206-LVE      | 01518-001   |
| AXIS Q6155-E 60 Hz  | 0934-004    |
| AXIS P3807-PVE      | 01048-004   |
| AXIS Q6100-E 60 Hz  | 01711-001   |
| AXIS P3717-PLE      | -           |
| AXIS Q6135-LE 60 Hz | 01959-004   |
| AXIS P3719-PLE      | 01500-001   |
| AXIS I8016-LVE      | 01995-001   |
| AXIS P3245-LVE 9 mm | 01593-001   |
| AXIS Q1785-LE       | 01161-001   |
| AXIS P3245-LV       | 01592-001   |
| AXIS Q3819-PVE      | 01819-001   |
| AXIS M3058-PLVE     | 01178-001   |
| AXIS P3715-PLVE     | 01970-001   |
| AXIS Q3518-LVE      | 01493-001   |
| AXIS M3115-LVE      | 01604-001   |

1. No Alternate Manufacturers will be considered.
- D. All associated devices and/or licensing is required to obtain a fully functional system, as mandated by this bid specification, shall be included as part this bid specification.
  - E. Licensing
    1. All required licensing shall be included as part of this specification. It is the responsibility of the contractor awarded this project to include licenses for each site, and new and existing cameras. Refer to section 2.3 for existing camera quantities.
    2. Licensing shall include licenses for AIPHONE Intercom Door Release IP Cameras.

F. Camera Locations:

1. All camera locations MUST to be field verified with the Owner prior to start of project. Architectural drawings are for approximation purposes only. Additional charges will not be allowed for installation in areas not reviewed or approved by the Owner.

G. General Requirements:

1. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.
2. All systems and components shall have been thoroughly tested and proven in actual use in the presence of the Owner or technology consultant.
3. All systems and components shall be provided with the availability of a toll-free (U.S.), 24-hour technical assistance program (TAP) from the manufacturer. The TAP shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge for as long as the product is installed.
4. All systems and components shall be provided with a one-day turnaround repair express and 24-hour parts replacement. The repair and parts express shall be guaranteed by the manufacturer on warranty and non-warranty items.

H. Camera Certifications:

1. CE, Class B.
2. FCC, Class B.
3. UL/cUL Listed.
4. C-Tick.

I. Camera Warranty

1. Three (3) years, parts and labor.

2.2 VIDEO SURVEILLANCE MANAGEMENT PLATFORM

- A. The selected manufacturer shall be **Milestone**. Other manufacturers will not be considered for this project.
- B. The selected Management platform shall be procured and installed as new. This platform shall be: **XPROTECT PROFESSIONAL** + most current version supplied by a Certified Factory representative.
- C. All required licenses, including site licenses, integration licenses, and camera licenses for all cameras included in this project, including Aiphone intercom door release cameras, to provide a fully functional system, is required as part of this contract

2.3 RECORDING SERVER

- A. The network video surveillance server/storage device shall be rack mountable unit.
- B. The Servers and Computers shall be meet the latest requirements as dictated by Milestone Product System Requirements Page.



- C. The system shall facilitate simultaneous digital multi-channel MJPEG, MPEG4, MPEG-4 ASP, MxPEG, and H.265 video recording of IP cameras and IP video encoders without any software limitations on number of cameras per server.
- D. The two-way audio shall allow users to transmit and record audio from connected microphones and audio from the operator's microphone to attached speakers.
- E. The generic framework shall receive and store metadata from compatible devices and clients.
- F. Route traffic between multiple connected cameras and multiple clients shall be able to request live view, playback and export.
- G. A dedicated recording stream shall enable optimization stream properties (resolutions, encodings and frame rate) for video storage and forensic usage.
- H. The system shall secure high speed recording database holding JPEG images or MPEG4, MPEG-4 ASP, MxPEG, H.264 or H.265 streams.
- I. Flexible control of recording characteristics for MPEG4/H.264/H.265 streams, shall make it possible to toggle between recording key frames only or the full stream.
- J. The system shall record more than 30 frames per second per camera, limited only by hardware. Recording quality shall depend entirely on camera and video encoder capabilities with no software limitations.
- K. Pre-recording buffer (used for event/motion based recording) in RAM shall minimize the disk read/write operations when no video is recorded.
- L. Edge Storage with flexible retrieval shall enable video retrieval from camera storage. This shall enable users to effectively retrieve video recordings across low-bandwidth connections.
- M. Scalable Video Quality Recording™ (SVQR) shall enable seamless merging of video stored in the recording server, and video retrieved from a camera associated edge storage, or interconnected system.
- N. The system shall enable the possibility to import pre-event images recorded locally in camera or video encoder.
- O. Built-in, real-time, camera-independent motion detection with the ability to generate motion metadata for Smart Search.
- P. The recording server shall run as a Windows service under local system account or optional local Windows user or Microsoft Active Directory account with run-as-a-service privileges
- Q. Port forwarding shall enable clients to access the recording servers from outside a network address translation (NAT) firewall.
- R. The system shall support for both IPv4 and IPv6 addressing.
- S. The 64-bit recording servers shall allow more cameras to be run on a single server unit

- T. The secure HTTPS camera connection on devices shall support HTTPS.
- U. Remote Connect Services shall enable you to securely connect remote cameras across different types of private and public network.
- V. I/O and events
  - A. XProtect Professional+ shall support devices with one or more input and output ports.
  - B. The Powerful rule processing engine shall execute start and stop actions triggered by events or time profiles.
- W. Clients shall be authenticated and authorized at the management server and shall use a session-limited access token to access the recording server.
- X. Shall enable logging of system, audit and rule entries to the management server with local caching during offline scenarios.
- Y. Approved Server Manufacturers shall be:
  - 1. Dell
  - 2. Each school shall receive (1) Recording Server with storage shall be sized to accommodate all the recorded video and management requirements for cameras new and existing described within this specification and shall accommodate the recording requirements stated below and within this document. Each of the schools remote Video management server and storage devices shall be minimally configured for the following:
    - a. Recorded Video Compression Rate: H.264.
    - b. Frame Recorded Per Second: Fifteen (15).
    - c. Resolution should be set at the highest obtainable from each camera specified.
    - d. Contractor shall assume 2MP resolution recording at (18) hours per day for all existing cameras.
    - e. Stored data shall be saved for 30 (30) calendar days.
    - f. Interior cameras shall record eighteen (18) hours per day.
    - g. Exterior cameras shall record twenty-four (24) hours per day.
    - h. Each camera "Field of View" shall be set up with the assistance of the Owner and/or the Technology consultant.
    - i. The specifications on the computer running the management server and management client must meet or exceed the Milestone Recommended Product System Requirements for the latest software version of XPROTECT PROFESSIONAL +.
    - j. Refer to drawings for new camera quantities.
- Z. The recording server, shall, at a minimum meet the following specifications. These specifications are for bidding purposes only and are based on Milestone XProtect Professional+ 2018, R2. The contractor awarded this project shall submit a revised calculation, with the latest XProtect Professional + version and server requirements. The updated server calculation must meet be calculated with the same camera specifications as below and must be calculated to view 16 camera views simultaneously.

AA. EXISTING CAMERA QUANTITIES: The following camera quantities shall be integrated into the new Milestone system. Contractor is responsible for ensure the server can accommodate the existing

cameras and recorded video. Contractor shall assume 2MP resolution at 18 hours per day for storage requirements. Contractor is responsible for cleaning, re-aiming, and re-focusing these cameras.

#### 2.4

1. **Bucks Hill Elementary School : (15 ) existing IP cameras**
2. **Maloney Elementary School : (8 ) existing IP cameras**
3. **Gilmartin Elementary School : ( 6 ) existing IP cameras**
4. **Walsh Elementary School : ( 30) existing IP cameras**
5. **Wilson Elementary School : ( 7 ) existing IP cameras**
6. **Adult Education School : ( 0 ) existing IP cameras**
7. **Crosby High School : ( 69 ) existing IP cameras**
8. **Bunker Hill Elementary School : ( 8 ) existing IP cameras**
9. **Generali Elementary School : ( 16 ) existing IP cameras**
10. **Enlightenment School : ( 20 ) existing IP cameras**
11. **Reed Elementary School : ( 42 ) existing IP cameras**
12. **Sprague Elementary School : ( 31 ) existing IP cameras**
13. **Tinker Elementary School: ( 6 ) existing IP cameras**
14. **Wilby High School : ( 9 ) existing IP cameras**

#### 2.5 UPS

1. Each server above shall receive a properly sized UPS to protect the server. This UPS shall be sized to accomodate the initial load with an additional Fifty (50) percent of headroom. UPS runtime shall be 30 Minutes at full load.

#### 2.6 SPOT MONITOR

- A. Each school and facility included within this project shall receive QTY (2) spot monitors.
- B. The Spot Monitor shall be **SAMSUNG #DM55E**
- C. Include all mounts.
- D. Field coordinate spot monitor locations with Client & Security Consultant prior to installation.
- E. Contractor shall include all cabling, mounting, installation, and long range wireless keyboard and mouse.

#### 2.7 MANAGEMENT CLIENT

- A. The computer running the management client on the Spot Monitor shall be a Dell.
- B. The computer running the management client must meet or exceed the latest requirements as dictated by the Milestone Product System Requirements Page.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine pathway and mounting surfaces intended for the cameras. Check structure and other elements for compliance with space allocations, installation tolerance, hazards to camera installation, and other conditions affecting installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 VIDEO SURVEILLANCE SYSTEM INSTALLATION

- A. Install cameras level and plumb.
- B. Install cameras with 84-inch minimum clear space below cameras and their mountings. Change type of mounting to achieve required clearance.
- C. Set pan unit and pan-and-tilt unit stops to suit final camera position and to obtain the field of view required for camera. Connect all controls and alarms and adjust.
- D. Install power supplies and other auxiliary components within the Telecommunication Room unless otherwise indicated.
- E. Install tamper switches on components indicated to receive tamper switches, arranged to detect unauthorized entry into system-component enclosures and mounted in self-protected, inconspicuous positions.
- F. Identify system components, wiring, cabling, and terminals according to industry standards.

### 3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Tests and Inspections:
  - 1. Inspection: Verify that units and controls are properly installed, connected, and labeled, and that interconnecting wires and terminals are identified.
  - 2. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Conduct tests at varying lighting levels, including day and night scenes as applicable. Prepare video-surveillance equipment for acceptance and operational testing as follows:
    - a. Prepare equipment list described in "Submittals" Article.
    - b. Verify operation of auto-iris lenses.
    - c. Set back-focus of fixed focal length lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Adjust until image is in focus with and without the filter.
    - d. Set back-focus of zoom lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image.

Additionally, set zoom to full wide angle and aim camera at an object 50 to 75 feet away. Adjust until image is in focus from full wide angle to full telephoto, with the filter in place.

- e. Set and name all preset positions; consult Owner's personnel.
  - f. Set sensitivity of motion detection.
  - g. Connect and verify responses to alarms.
  - h. Verify operation of control-station equipment.
- 3. Test Schedule: Schedule tests after pretesting has been successfully completed and system has been in normal functional operation for at least fourteen (14) days. Provide a minimum of ten (10) days notice of test schedule.
  - 4. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation. Test equipment for proper operation in all functional modes.
- C. Video surveillance system will be considered defective if it does not pass tests and inspections.
  - D. Prepare test and inspection reports.

### 3.4 ADJUSTING

- A. Occupancy Adjustments: When requested within twelve (12) months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two (2) visits to this Project location during other-than-normal occupancy hours for this purpose. Tasks shall include, but are not limited to, the following:
  - 1. Check cable connections.
  - 2. Check proper operation of cameras and lenses. Verify operation of auto-iris lenses and adjust back-focus as needed.
  - 3. Adjust all preset positions; consult Owner's personnel.
  - 4. Recommend changes to cameras, lenses, and associated equipment to improve Owner's use of video surveillance system.
  - 5. Provide a written report of adjustments and recommendations.

### 3.5 CLEANING

- A. Clean installed items using methods and materials recommended in writing by manufacturer.
- B. Clean video-surveillance-system components, including camera-housing windows, lenses, and monitor screens before installation and prior to final acceptance.
- C. Remove rubbish and debris: Installation contractor is not allowed you use the onsite dumpster and is responsible to discard their own debris off site.

### 3.6 SERVICE LEVEL AGREEMENTS (SLA'S)

- A. The bidding contractor shall include pricing for a Three (3) year SLA as part of the base bid and shall include the following procedures:
  - 1. Windows upgrades/patches shall be installed and updated two times (2x) per year to the

- Video management Server and Network Storage Devices and the Access Control devices.
2. Firmware updates shall be performed two times (2x) per year to all of the cameras.
    - a. This shall be a flash upgrade to all cameras on the tree via the VMS Manager which resides on the Server(s). These upgrades will improve integration between the cameras and the VMS Management software.
  3. Physical Maintenance shall be performed two times (2x) per year on all of the cameras within this specification and shall minimally include:
    - a. Correct lens adjustments.
    - b. Verify heating elements.
    - c. Lens and enclosure cleaning.
    - d. Secure screws.

### 3.7 DEMONSTRATION – TRAINING

- A. By means of training classes augmented by individual instruction as necessary, the Bidding contractor shall fully instruct the BOE's designated staff and personnel in the operation, adjustment and maintenance of all products, equipment and systems.
- B. General Training Requirements:
  1. The security contractor shall submit proposal to conduct training courses for the security personnel in the operation and maintenance of the security systems within this security project.
  2. The security contractor shall include training manuals and aids in the quantity as requested by the Owner. The training manuals shall include an agenda, defined objectives for each lesson, and a detailed description of the subject matter for each lesson. All personnel providing the instructions shall be certified by the equipment manufacturer for all applicable hardware and software.
  3. Approval of the planned training content and training schedule shall be obtained by the Owner at least 45 days before the training is scheduled.
  4. Training shall be provided by qualified, factory trained and certified engineers familiar with each system and its operations and shall be provided at the site for a period of no less than the hours stipulated below.
- C. TRAINING TOPICS
  1. System Administration Training
    - a. This training shall focus on determining and implementing system operational parameters.
    - b. The first training class shall be conducted so that it is completed approximately 30 days prior to acceptance of the system and final system reliability testing. **8 Hours of Administration training; (2) 4-hour classes.**
    - c. The second training class shall be conducted so that it is completed approximately 7 days prior to acceptance of the system and final system testing. The system administrator shall be included as part of this final system acceptance and reliability testing. **6 Hours of training; (2) 3-hour classes.**
    - d. This Administrations training shall include:

- 1) Overall architecture and configuration of each system.
- 2) Use of all system functions.
- 3) Alarm setup and implementation.
- 4) System database backup procedures.
- 5) Hardware specifications.
- 6) Fault diagnosis and corrections.

## 2. System User Monitoring Training

- a. This training shall be for each designated personnel at this school.
- b. This training shall focus on day-to-day system operations. Each user shall be capable to start the systems, operate them, recover the systems after a failure, and describe the specific hardware architecture and operation of the systems.
- c. The first training class shall be conducted so that it is completed approximately 30 days prior to acceptance of the system and final system reliability testing. All System User Training shall be performed at each school within this specification. **8 Hours of User training; (2) 4-hour classes.**
- d. The second training class shall be conducted so that it is completed approximately 7 days prior to acceptance of the system and final system testing. The system administrator shall be included as part of this final system acceptance and reliability testing. **6 Hours of User training; (2) 3-hour classes.**
- e. Training shall include:
  - 1) Use of overall system monitoring functions as determined by the security administration staff.
  - 2) General hardware architecture.
  - 3) Functional operation of each system and interaction between these systems.
  - 4) All Operator commands.
  - 5) Simple diagnostics.

## 3. System Troubleshooting and Maintenance Training

- a. Training shall be provided with the internal features and configuration of the security systems so the user can trouble shoot and repair most configuration and physical device problems.
- b. The training class shall be conducted so that it is completed approximately 14 days prior to acceptance of the system and final reliability testing. The users shall be included as part of this reliability testing. **8 Hours of training; (2) 4-hour classes.**
- c. This training shall include:
  - 1) System networking communications and diagnostics.
  - 2) Device configuration and programming.
  - 3) Wiring and cabling overview.
  - 4) System Diagnostics.
  - 5) Software troubleshooting.
  - 6) Physical layout of each piece of hardware.
  - 7) Preventive maintenance procedures and schedules.

## 4. IT Training

- a. Training shall be provided information of the security systems to the IT staff. This shall include information as to how each system functions within the LAN/WAN network infrastructures. **4 Hours of training.**
  - b. Topics shall include:
    - 1) Network topologies.
    - 2) Impact of the video storage on network bandwidth requirements.
    - 3) Maintenance of data security.
- D. Training hours and sessions must be documented by the instructor and approved by the Owner before project closeout.
- E. Should the training be deemed as inadequate by the Owner, the owner reserves the right to retain outside manufacturer training. If this outside manufacturer training has an associated cost, this cost shall be deducted from the final invoice of this project.
- F. The Owner reserves the right to request the Contractor to videotape training sessions and turn over video records (DVD format) to Owner as part of the "Owner Project Manuals" and Deliverables.

### 3.8 LICENSING AND COMPETENCY

- A. This Contractor shall be a bona fide security systems contractor, licensed by the State of Connecticut for the installation of the low voltage security and signal communication systems, and engaged in security system maintenance, service and contracting for at least the last five years.
- B. The Contractor shall employ technicians who have been trained by the Manufacture specified within this section to install the systems of this manufacture.
- C. The contractor shall be a factory authorized stocking distributor of the manufacturer of the equipment included in the system so that immediate replacement parts can be made from inventory and service provided as needed on an emergency basis.
- D. The Contractor shall submit with the bid a manufacturer's certificate of acceptance of the qualifications of the Installing Contractor to install, test, maintain and repair the manufacturer's equipment.
- E. In order for the Security Consultant to verify that they meet the competency requirements of this specification, Contractors must submit the following information if so requested:
  - 1. Proof that the Contractor has installed, services and maintained similar security systems for a minimum of ten (10) years.
  - 2. Proof that the Contractor is a firm which currently and regularly installs, services and maintains security systems as a full time business.
  - 3. The names and qualifications of security system technicians that shall perform and supervise the work, and perform tests or adjustments on the systems and equipment. Qualifications shall include all schooling, training, and history of work experience.
  - 4. A list of four prior systems comparable to the one specified under this contract which were installed, serviced, and maintained satisfactorily by the Contractor for a minimum of one (1) year. Each system listed shall include the firm or owner, location, person to contact



(with telephone number), date of installation and service period, and a brief description of the system and work performed on the system.

- F. The Contractor shall submit any other information required by the Security Consultant to determine the competency of the Contractor. If this information is not submitted as requested, it shall be submitted within the time specified by the Architect after the bid opening. If the Contractor fails to submit the information in accordance with the Security Consultant's request, the Contractor shall be declared non-responsive, and may be rejected to perform the work specified within this section.

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END OF SECTION 28 23 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Access Control System: **S2**
- B. Proximity Devices (Card Readers): **HID Multi-Class**
- C. Motion Detectors Request to Exit Devices (REX) (RTE)
- D. Door Contacts
- E. Intercom Door Release: **AIPHONE IX Series**

1.2 RELATED DOCUMENTS

- A. Related Sections
  - 1. 080671 Door Hardware Schedule
  - 2. 087400 Access Control Hardware
  - 3. 270528 Pathways for Communications Systems
  - 4. 280500 Security Conductor Cables
  - 5. 280528 Pathways for Security Systems
  - 6. 282300 Video Surveillance
- B. Refer to the following construction documents for Data Room locations and device locations only.
  - 1. "Y" Drawings – Security Plans
- C. Related Sections
  - 1. Section 280500 – "Security Conductor Cables"
  - 2. Section 280528 – "Pathways for Security Systems"
  - 3. Section 282300 – "Video Surveillance".

1.3 SUMMARY

- A. Section includes a network controlled; access control system consisting of Proximity Readers, REX's and Door contacts, electric door hardware & power supplies, cabling and configuration with associated installation and configuration of the equipment.

- B. The contractor awarded this project shall secure an S2 employed technician for 16 hours, in two blocks, at the start and end of this project to ensure proper configuration of the access control and magic monitor System.
- C. The awarded contractor of this section shall furnish and install a network access-controlled system into this facility using electronic security devices. This integrated access control system shall incorporate all devices necessary to achieve the specified system, all associated monitoring and recording software, hardware, configuration, testing and training.
- D. The contractor awarded this project must include the following licenses and configuration:
  - 1. S2 I/O, and network nodes for all access-controlled doors, all door position switches, all duress & lockdown buttons, and all security strobes.
  - 2. Configuration of user access levels based on user profile and door profile with the owner for each door specified within this section.
  - 3. Threat Level, Lockdown button configuration, and Day alarm configuration.
- E. The contractor must show proof of at least two technicians with S2 training prior to being awarded this project.
- F. All installation, peripheral devices, required licensing and configurations are required as part of this specification to establish a coherent, functional system as described within this bid package.
- G. Security control and network cabling to/from the equipment rooms to the controlled doors, as described within the documents shall be furnished and installed by the contractor awarded this project.
- H. Any and all additional interconnection cabling required for a functional system shall be furnished and installed by the contractor awarded this portion of work.
- I. Final terminations to all devices are required by the bidding integrator of this portion of work.
- J. The Integrator awarded this portion of work shall provide and install a complete integrated security system and all associated, terminations, supporting devices, configuration of system, testing and training in accordance with this Bid package.
- K. This specification is used to identify the requirements for an integrated access control system. The operator workstation(s) shall be used for database programming and storage of historical events and as a User interface with the Video Surveillance System.
- L. This system shall be integrated with the building's fire alarm system for proper activation of "fail-secure" locking mechanisms.
- M. All interconnections required to the fire alarm system shall be terminated by the fire alarm installers and shall be coordinated with the contractor awarded this portion of work.

#### 1.4 SYSTEM CONFIGURATIONS:

- A. All system configuration(s) shall be included to attain a fully functional system and shall be within the Scope of work of the awarded contractor of this Bid package. This configuration shall include

but not be limited to the following:

1. Configuration of all controlled doors and devices.
2. Configuration of all cameras shall be managed from the Access Control Platform
3. Access Controlled doors added as part of this project shall be integrated into the schools existing lockdown operations.
4. Configuration of LAN switches – Active Electronics as required.
5. Configuration of Access Control platform shall allow for Web access into the Access Control and Video Surveillance systems from all schools and via an internet connection which shall VPN into the owner's network.
6. Configuration of the S2 & Milestone integration.

## 1.5 DEFINITIONS

- A. IP: Internet protocol.
- B. LAN: Local area network.
- C. WAN: Wide area network.
- D. AS NECESSARY: Shall mean work which is required for completed construction, but is not necessarily shown or described in the Contract Documents.
- E. AS REQUIRED: Shall mean work which is required for completed construction, but is not necessarily shown or described in the Contract Documents.
- F. SUBSTANTIAL COMPLETION: Shall mean that the project is sufficiently complete to be utilized for its intended use as stated in the body of this written specification.
- G. CONTRACTOR/INTEGRATOR: Refers to the bidding/installation Contractor responsible for furnishing and installation of all work indicated within this specification.

## 1.6 PERFORMANCE REQUIREMENTS

- A. Environmental Conditions – System(s) shall withstand the environmental conditions without mechanical or electrical failure, damage or degradation of its operating capacity.

## 1.7 SUBMITTALS

- A. The contractor shall offer a complete parts list with this bid, for all products specified within this document and/or required for a complete installation.
- B. Product Data: Submit manufacturer's product specification sheets for every product to be used in this system within two (2) weeks of award of project. Product specification sheets must have the product being utilized and its part or model number visibly indicated. Product data shall include dimensions and data on features, performance, electrical characteristics, ratings, and finishes.

- C. Equipment and System Operation Description – Include the method of operation and supervision of each component and type of circuit. Show the sequence of operation for manually and automatically initiated system(s) or equipment inputs. Description must cover this specific project.
- D. Operation and Maintenance Data – For the intrusion/detection access control system, shall include the emergency, operation and maintenance manuals and shall include the Central-Station control unit hardware and software data.
- E. Include an itemized bill of materials and a detailed description of the proposed system(s) within the bid response. Any appendices are only intended to assist the contractor to formulate a bid. Quantities are estimated and should be verified by contractor.
- F. A copy of the Contractors Certified Installers Access Control Manufacturer’s Certificate MUST be supplied within the bid response.
- G. Documentation of the Contractors installers **S2 Certifications** MUST be supplied within the bid response. S2 Certifications required include:
  - 1. Basic Certification
  - 2. Advanced Person Records
  - 3. Data Operations
  - 4. Event Lifecycle
  - 5. Partitions
  - 6. S2 Mobile Security Officer
  - 7. Latest Magic Monitor
  - 8. Custom Reporting
- H. Shop Drawings: For access control system shall be provided within two (2) weeks of system substantial completion acceptance. Include plans, elevations, sections, details, and attachments to other work.
  - 1. Functional Block Diagram: Show single-line interconnections between components for signal transmission and control. Show cable types and sizes utilized.
- I. In the event that the installation contractor does not furnish or does not supply sufficient documentation, the owner has the right to engage a separate contractor to attain any or all required documentation. All costs related with this event shall result in a back charge to the installation vendor via a change order.
- J. Warranty: Sample of special warranty.

#### 1.8 QUALITY ASSURANCE

- A. Installer Qualifications – Installer must be a certified, factory trained, accredited and licensed installer for the manufacturers described within Article 1, 1.1 above.
- B. Installer Qualifications – A qualified manufacturer shall maintain a service center capable to provide training, parts and emergency maintenance repairs for the overall systems described within this Security specification and drawings. This response time must not exceed twelve (12)

hour period from the time that the Owner has issued a trouble ticket.

- C. Electronic data exchange between video surveillance system with an access-control system shall comply with SIA TVAC.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. Comply with NECA 1.
- F. Comply with NFPA 70.

#### 1.9 PROJECT CONDITIONS

- A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:
  - 1. Interior, Controlled Environment: System components installed in temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F (2 to 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, noncondensing. Use NEMA 250, Type 1 enclosures.
  - 2. Interior, Uncontrolled Environment: System components installed in non- temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F (minus 18 to plus 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, noncondensing. Use NEMA 250, Type 3R enclosures.
  - 3. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F (minus 34 to plus 50 deg C) dry bulb and twenty to ninety percent (20-90%) relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 85 mph and snow cover up to 24 inches thick. Use sufficiently rated NEMA 250 enclosures.
  - 4. Hazardous Environment: System components located in areas where fire or explosion hazards may exist because of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers shall be rated, listed, and installed according to NFPA 70.
  - 5. Corrosive Environment: System components subject to corrosive fumes, vapors, and wind-driven salt spray in coastal zones. Use sufficiently rated NEMA 250 enclosures.
  - 6. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

#### 1.10 WARRANTY

- A. The Integrator guarantees the Systems to be installed under this specification to be free from any defects in workmanship and materials for a period of one (1) year from the date of final completion/acceptance of the project by the Owner as evidenced by the date of final payment for the work. The Contractor shall promptly and at their own expense remedy any defects in the work and pay for any damage to other work resulting thereof, which shall appear during the period

of time covered by this guarantee. Neither the final certificate of payment nor any provisions in this Agreement shall constitute an acceptance of work not done in accordance with this specification, or relieve the Contractor of liability with respect to any expressed warranties or guarantees or responsibility for faulty materials or workmanship.

- B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of equipment related to the Access Control System, and control-station equipment that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Three (3) years from date of Substantial Completion.
- C. The Integrator shall provide all services required to maintain the system in an operational state as specified by the manufacturer for a period of one (1) year after acceptance.
- D. Service response shall be within twelve (12) hours of the initial request for service and shall be provided twenty-four (24) hours per day, seven (7) days per week and three hundred sixty-five (365) days per year.
- E. Contractor shall include, as part of this warranty, a program for maintenance for each integrated system.
  - 1. Provide details of coverage, preventive maintenance schedules, exclusions and service rates for all billable time and travel charges.
  - 2. Maintenance shall include two (2) semi-annual inspections and tests to verify the intended operation of the security system(s). System testing shall include but not be limited to the testing of all devices, fault modes and batteries. A detailed test report indicating these results and any corrective measures shall be furnished to the owner.
- F. The Contractor shall provide software and firmware upgrades as required and available to the Owner.
- G. Submit manufacturer's standard warranties.

## PART 2 - PRODUCTS

### 2.1 ACCESS CONTROL NETWORK MANAGED SYSTEM

- A. Selected Manufacturer:
  - 1. The selected manufacturer shall be **S2**. Other manufacturers will be NOT be considered.
- B. General Overview:
  - 1. The **S2** Security Management System shall be implemented through network appliance architecture with a three-tiered modular hardware hierarchy and embedded three-tier software architecture.
    - a. The network appliance shall be capable of running on an existing TCP/IP network

- and shall be accessible, configurable, and manageable from any network-connected PC with a browser.
- b. Browser access for configuration and administration of the system shall be possible from a PC on the same subnet, through routers and gateways from other subnets, and from the Internet. Control and management of the system shall therefore be geographically independent.
  - c. Security of the data communicated over the network to and from the browser, Network Controller, and nodes is protected by encryption (SSL 128-bit) and authentication (SHA-1).
  - d. The top hardware tier is the Network Controller. Embedded on the Network Controller are an operating system, a web server, security application software, and the database of personnel and system activity.
  - e. The middle hardware tier is the Network Node. The Network Node shall make and manage access control decisions with data provided by the Network Controller, and it shall manage the communication between the Network Controller and Application blades connected to the system's inputs, outputs, and readers. This modular design makes it possible, even during network downtime, for the system to continue to manage access control and store system activity logs. When network connectivity is re-established, the system activity logs are automatically re-integrated.
  - f. The bottom hardware tier is the Application Blades. Four unique Application blades shall be available:
    - 1) Access Control Blade: Shall support two (2) readers, four (4) supervised inputs, and four (4) relay outputs.
    - 2) Alarm Input Blade: Shall support eight (8) supervised inputs.
    - 3) Relay Output Blade: Shall support eight (8) relay outputs.
    - 4) Temperature Blade: Shall support eight (8) analog temperature sensor inputs.
2. The system shall integrate, within a browser interface, access control, alarm monitoring, video monitoring, and temperature monitoring applications. These applications shall be embedded in a three-tier software architecture.
- a. The database tier shall use PostgreSQL. PostgreSQL is a full featured, high performance database management system that supports ODBC. This shall provide a small footprint, low administration, and high reliability relational database that is embedded without requiring the use of a separate PC server.
  - b. The web server tier shall be based on an Apache™ embedded web server. This shall provide a graphically rich security management application through a standard web browser.
  - c. The web browser shall provide UL 1076 compliant browser-based monitoring and incorporate asynchronous Javascript™ and XML technology (AJAX) for a faster user experience.
  - d. The security application software tier contains the business logic. This application shall also be embedded on the network device and requires no additional memory or processing power.
  - e. This three-tiered embedded software design runs within an embedded Linux operating system and shall require no client-side software other than a web browser.
3. All equipment and materials used shall be standard components, regularly manufactured,



- and regularly utilized in the manufacturer's system.
4. All systems and components shall have been thoroughly tested and proven in actual use.
  5. All systems and components shall be provided with an explicit manufacturer warranty of one (1) year for software and two (2) years for hardware.

C. Overall System Capability

1. The Access Control Security Management System shall meet the requirements of business and government access control systems. The system shall monitor and control facility access, and shall perform alarm monitoring, camera and video monitoring, communications loss monitoring, and temperature monitoring. The system shall also maintain a database of system activity, personnel access control information, and system user passwords and user role permissions. The system shall be controlled from a web browser and require no software installation or client licenses. The system shall provide control and access to users on Local Area Networks (LAN), Wide Area Networks (WAN), wireless networks, and the Internet. The system shall provide email and/or text message alerts for all alarm conditions and threats.
2. Widget Desktop: The system shall provide a widget-based user interface that enables users to create custom monitoring layouts by selecting and arranging widgets on a desktop.
  - a. Each widget shall provide easy access to a frequently used function allowing users to, for example, view an activity log, a camera view, or real-time web content.
  - b. System administrators can save custom layouts for subsequent call up by users, who can then arrange the widgets as desired on their desktops. The administrator shall determine which widgets are available in a layout and the extent to which users can customize the layout.
  - c. The widgets that shall be available for a layout are: Activity Log, Clock, Duty Log Entry, Explorer, Events, Floorplans, Intrusion Panel, Passback Grace, PhotoID History, Portal Status, Portal Unlock, Statistics Block, Status, Threat Level, and Video.
3. System Partitioning: The system administrator shall have the ability to divide the system into partitions, allowing subsets of the overall population and/or resources to be managed separately.
  - a. From the default Master partition, one (1) or more additional partitions can be created.
  - b. Each partition shall contain some number of administrators, card holders with their credentials, and resources.
  - c. When performing administrative functions, the administrator of a partition shall have the ability to affect only the cardholders and resources in that partition. However, resources can be shared across partitions through the mapping of access levels from one partition to another.
  - d. System partitioning shall have a precision feature that allows administrators in one (1) or more partitions to view and perform edit functions on person records that belong to another partition.
4. Location-Based Threat Levels: The system administrator shall have the ability to define locations. This allows for threat levels to be assigned to individual locations.

- a. Within each parent location, sub-locations can be created, and additional sub-locations can be created within each of these, and so on. This creates a location hierarchy.
  - b. Portals can be assigned, and threat levels applied, to any location within the hierarchy.
5. The system shall provide the following Access Control capabilities:
- a. Integrated photo ID creation capability with video verification.
  - b. User interface secured access under encrypted password control.
  - c. System-wide timed anti-passback function.
  - d. Regional anti-passback with mustering and roll call functions.
  - e. Region occupancy counting and control.
  - f. “First-in-unlock” rule enforcement.
  - g. Multiple access levels and cards per person.
  - h. 128-bit card support for Wiegand card readers.
  - i. Detailed time specifications.
  - j. Simultaneous support for multiple card data formats.
  - k. Elevator control.
  - l. Access privileges variable by threat level.
  - m. Scheduled portal unlock by time and threat level.
  - n. Card format decoder quickly discovers unknown card formats.
  - o. Card enrollment by reader or keyboard.
  - p. Compatibility with various input devices, including biometric readers.
  - q. Activation/expiration date/time by person with one (1) minute resolution.
  - r. Access level disable for immediate lockdown.
  - s. Use of Threat Levels to alter security system behavior globally.
  - t. Multiple holiday schedules.
  - u. Timed unlock schedules.
  - v. Scheduled actions for arming inputs, activating outputs, and locking and unlocking portals.
  - w. Card enrollment reader support.
  - x. Dual-reader portal support.
  - y. Wiegand Reader support.
  - z. Magnetic-stripe reader support with cards using ABA Track 2 format for up to 200 bits.
  - aa. Wiegand keypad PIN support for 4-digit or 6-digit PINs.
  - bb. 8-bit and 4-bit burst keypad support for 4-digit or 6-digit PINs.
  - cc. Integration with supported alarm panels.
  - dd. Optional storage and recall of ID photos and personal/emergency data.
  - ee. Up to sixty thousand (60,000) person records.
6. The system shall provide the following Monitoring capabilities:
- a. Common alarm panel integration for disarm on access, and arm on egress.
  - b. Integrated alarm monitoring and event management with alarm panels.
  - c. Support for the direct viewing of IP cameras.
  - d. Integrated real-time IP, DVR, and NVR systems with stored video replay for events.
  - e. Provides alarms on video loss, video motion detection, and video restore events.

- f. Virtual inputs for video loss and building-occupancy-limits-exceeded.
  - g. Provides alarms on communication loss and temperature variation.
  - h. Support for the creation of custom sets of alarm event actions.
  - i. Provides the ability to record video and link to video for alarm events.
  - j. Available video control and playback through the System user interface.
  - k. Provides the ability to assign threat levels to various alarms according to severity.
  - l. Provides the ability to select up to twenty (20) levels of priority for event actions.
  - m. Provides the ability to enter a duty log comment into the Activity Log, or to append a unique or preset comment to a particular log entry while viewing the Activity Log.
  - n. Support for electronic supervision of alarm inputs.
  - o. Support for the use of output relays for enabling circuits under alarm event control.
  - p. A monitoring desktop that integrates video, system activity logs, floorplans, ID photos, and alarm notifications.
  - q. Support for the creation of unlimited customized monitoring layouts through the use of widgets.
  - r. Graphic floorplans with active icons of security system resources.
  - s. System user permissions to grant whole or partial access to system resources, commands, and personal data.
  - t. Secure access to the user interface under encrypted password control.
  - u. Delivery of alerts via browsers, email, and text messages.
7. The system shall provide the following Video Management capabilities:
- a. Real-time video monitoring displays, including unlimited cameras simultaneously.
  - b. Playback of event-related video.
  - c. Video switching and video widget pop-ups based on access activity or event activation.
  - d. Integrated alarm inputs from the video management system.
  - e. Digital playback of video events.
  - f. Linking of video and events based on triggers provided by the system or video system.
  - g. Support for multiple DVR and NVR systems.
  - h. Multiple pre-programmed supported cameras.
  - i. Recall of photo ID and real-time image for comparison.
  - j. Monitoring and control through a web browser interface.
  - k. System user permissions to grant whole or partial access to system cameras and video resources.
8. The system shall provide the following Security Database capabilities:
- a. Maintain data of system activity, personnel access control information, system user passwords and custom user role permissions for whole or partial access to system resources and data.
  - b. Partitions: It shall be possible to partition the system to create independent, virtual security management systems for multiple populations.
  - c. Support for the sharing of access levels and user privileges across partitions in a system.
  - d. Built-in Open Database Connectivity (ODBC) compliant database for personal data.
  - e. LDAP integration for single-user logon authentication.

- f. Up to sixty thousand (60,000) person records.
- g. Network-secure API for external application integration.
- h. Extensive and easy to use custom report generator.
- i. User-defined data fields in personnel records.
- j. Record recall by vehicle tag, name, or card.
- k. ODBC compliant Database.
- l. An API for adding to, deleting from, and modifying the database.
- m. Storage of system user passwords and permissions.
- n. Storage and recall of ID photos and emergency personal information.
- o. Pre-defined reports on system configuration, system activity history, and people.
- p. An Audit Trail report shows changes made to the security database over a specified period of time.
  - 1) For each transaction listed in the report results, information is available on when the transaction occurred, who made the changes, the fields that were modified, and the original and new values.
  - 2) Search criteria can be applied to filter the report results, either by the person whose record was changed or by the area of the system configuration that was modified.
- q. English-based query language for instant custom reports.
- r. Custom report writer interface that allows the interactive creation of custom reports. Reports may be saved for later reuse. No third party software (such as Crystal Reports) shall be necessary.
- s. Periodic backup to on-board flash ROM and optional network attached storage (NAS), including FTP servers.
- t. Periodic archive creation for historical custom reporting and improved on-board database performance.
- u. Email and text messaging (SMS) alert notifications.

#### D. Hardware Requirements

- 1. The Access Control Security Management System shall employ a modular hardware concept that enables simple system expansion and utilizes a three-tiered hardware hierarchy:
  - a. At the top tier is the Network Controller, which shall contain the database engine, web server, application software, and configuration data. It is at this level that System Users, through a browser interface, shall interact with the system, set configurations, monitor activities, run reports, and manage alarms.
  - b. At the second tier is the Network Node, an intelligent device with native TCP/IP support, which shall make and manage access control decisions.
  - c. At the third tier are the application extension blades. Each of these blades shall connect to and manage a set of inputs, outputs, readers, cameras, or temperature monitoring points.
  - d. The network device shall run on existing building TCP/IP networks and shall be configurable for access from separate subnets, through gateways and routers, and from the Internet. A MicroNode shall also be available that combines an Access Control blade and Network Node.

2. The Network Controller shall contain the operating system, database engine, web server, application software, and configuration data. The Network Controller shall be available in two configurations to support small and medium systems. Those systems shall be identified respectively as: a solid-state Network Controller, and an Extreme Network Controller.
3. A solid-state Network Controller shall consist of a blade-style, circuit card that also combines a Network Node on the card. The Network Controller portion of the card shall contain a processor, flash memory, and a network switch. The Network Controller shall be supplied with 12V DC at a minimum of 3 amps. Internal battery backup shall supply sufficient power to provide for an orderly shutdown of the system in case of loss of external power. External battery backup shall be used to provide uninterrupted operation in the event of external power loss. The Network Node portion shall contain a serial port for communication with the Application blades and a network interface port. A solid-state Network Controller shall have the following capabilities:

|    |                             |   |
|----|-----------------------------|---|
| a. | Nodes/MicroNodes:           | 32  |
| b. | Access control portals:     | 64  |
| c. | Access cards:               | 60,000  |
| d. | Access levels:              | 512   |
| e. | Card formats:               | 32  |
| f. | Alarm input points:         | 500   |
| g. | Control point outputs:      | 500   |
| h. | Temperature monitor points: | 500   |
| i. | Elevators:                  | 20  |
| j. | Floors:                     | 100   |
| k. | IP, DVR and NVR cameras:    | Limited only by license   |
| l. | Online event history log:   | Up to 10 million records  |
| m. | Ethernet switch ports:      | 2   |
| n. | Time specifications:        | 512   |
| o. | Time spec groups:           | 64  |
| p. | Time specs per group:       | 8   |
| q. | Threat levels:              | 8   |
| r. | Threat level groups:        | 32  |
| s. | Holidays:                   | 30  |
| t. | Access levels per person:   | 16  |
| u. | Cards per person:           | 100   |
| v. | Report groups:              | 50  |
| w. | Camera groups:              | 50  |
| x. | Concurrent system users:    | 5 (when using Monitoring Desktop/Camera Views)<br>10 (when performing administrative tasks) |

4. The Access Control Controller shall be available in wall-mount or 2RU rack-mount enclosure. It shall contain a motherboard with an Intel® Atom™ processor and solid-state disk drive. An Ethernet connector shall be provided for network connection. The NetBox Extreme Network Controller shall have the following capabilities:

|    |                         |                   |
|----|-------------------------|-------------------|
| a. | Nodes/MicroNodes:       | 64                |
| b. | Access control portals: | 256               |
| c. | Access cards:           | 150,000           |
| d. | Access levels:          | 512 per partition |

|    |                             |                          |
|----|-----------------------------|--------------------------|
| e. | Concurrent system users:    | 10                       |
| f. | Alarm input points:         | 2000                     |
| g. | Control point outputs:      | 2000                     |
| h. | Temperature monitor points: | 500                      |
| i. | IP, DVR and NVR cameras:    | Limited only by license  |
| j. | Online event history log:   | Up to 40 Million records |
| k. | Ethernet switch ports:      | 1                        |
| l. | Time specifications:        | 512 per partition        |
| m. | Time spec groups:           | 64 per partition         |
| n. | Time specs per group:       | 8 per partition          |
| o. | Threat levels:              | 8 per partition          |
| p. | Threat level groups:        | 32 per partition         |
| q. | Holidays:                   | 30 per partition         |
| r. | Access levels per person:   | 16                       |
| s. | Cards per person:           | 100                      |
| t. | Report groups:              | 50                       |
| u. | Camera groups:              | 50                       |

5. The Network Node shall make and manage access control decisions with data provided by the Network Controller, and it shall manage the communication between the Controller and Application blades connected to the system's inputs, outputs, and readers. The Node shall be supplied with 12V DC at a minimum of 3 amps. The Node blade shall supply all Application blades in the node with power. The Network Node shall be available in three configurations: a combined Network Controller/Network Node blade; a standalone Network Node blade, and a MicroNode with included Access Control blade. Each Network Node shall support up to seven (7) Application blades except for the MicroNodes. Communications between the node and Network Controller shall be encrypted and authenticated (SHA-1). Each Network Node shall have the following capabilities:

|    |                            |        |
|----|----------------------------|--------|
| a. | Application blades         | 7      |
| b. | Access control readers     | 14     |
| c. | Access levels              | 512    |
| d. | Portals                    | 14     |
| e. | Portal groups              | 64     |
| f. | Readers                    | 14     |
| g. | Reader groups              | 128    |
| h. | Supervised inputs          | 56     |
| i. | Input groups               | 64     |
| j. | Relay outputs              | 56     |
| k. | Output groups              | 64     |
| l. | Temperature monitor inputs | 56     |
| m. | Elevators                  | 14     |
| n. | Floors                     | 52     |
| o. | Floor groups               | 64     |
| p. | Credential storage         | 20,000 |
| q. | Activity log records       | 27,000 |

6. The Application blades shall interface with the Network Controller through the Network Node. The Application blades shall be blade-style circuit cards. There shall be four (4)

types of Application blades:

- a. Access Control Blade: Shall support two (2) readers (input devices such as keypads, RFID devices or Biometric readers), four (4) supervised inputs and four (4) relay outputs.
  - b. Supervised Input Blade: Shall support eight (8) supervised inputs. Supervised input connectors are 2-pin. The system shall support a wide variety of input supervision types including normally-open circuit and normally-closed circuits, and zero (0), one (1) or two (2) resistor configurations.
  - c. Relay Output Blade: Shall support eight (8) relay outputs. Relay output connectors are 3-pin. Both normally-open circuit and normally-closed circuit output devices are supported. The relay outputs shall support any output devices that operate on the following maximum electrical ratings: 30 Volts DC or AC, 2.5 Amps inductive or 5.0 Amps non-inductive.
  - d. Temperature Blade: Shall support eight (8) analog temperature sensor inputs. Temperature range shall be 32° to 158° F (0° to 70° C). Temperature precision within that range shall be  $\pm 1.0^{\circ}$  F ( $\pm 0.5^{\circ}$  C).
7. The MicroNode shall combine a Network Node and an Application blade capability in one (1) enclosure. The Access Control blade portion of the MicroNode shall support two (2) readers, one (1) temperature input, four (4) supervised inputs and four (4) relay outputs. A MicroNode shall utilize 12VDC power at 3 Amps or Power over Ethernet (PoE) at the 802.3AF standard and be capable of supplying direct power to two (2) readers, two (2) motion REXs, and two (2) door strikes.

E. Certifications

1. UL 294 listed.
2. ISO 9000 listed.

2.2 S2 DEVICES:

A. Wall Mounted Access Control Security Panel:

1. S2-NN-E2R-WM
  - a. QTY (A/R)
2. S2-NN-E-WM
  - a. QTY (A/R)

B. Access Control Application Blade:

1. S2-ACM
  - a. QTY (A/R)

C. Relayed Output Application Blade:

1. S2-OUTP
  - a. QTY (A/R)

D. Supervised Input Application Blade:

1. S2-INP

- a. QTY (A/R)

## 2.3 REQUIRED LICENSES:

- A. Milestone Integration:
  - 1. S2-VMS-B-MS
    - a. QTY (A/R)
  - 2. S2-VMS-C-MS
    - a. QTY (A/R)
- B. DMP Integration
  - 1. S2-DMP
    - a. QTY (1)
- C. Partitioning License
  - 1. S2-DBP

## 2.4 MAGIC MONITOR BRICKS

- 1. S2-MMB
  - a. QTY (2)
  - b. These shall be mounted behind the spot monitors in:
    - 1) Admin Suite #101
    - 2) Principal's Office #101c

## 2.5 PROXIMITY READERS

- A. The selected manufacturer shall be **HID** – USA in 15370 Barranca Pkwy, Irvine, CA. Other manufacturers will be considered, providing equipment meets or exceeds the quality and functionality specified.
- B. The selected model shall be:
  - 1. **HID**, RP40, Wall-mounted multiCLASS SE Reader
  - 2. **HID**, RP15, Wall-Mounted Mullion Mount multiCLASS SE Reader
- C. Features:
  - 1. Accepts 5 to 16 volts, meeting most voltage requirements.
  - 2. Available with Wiegand or Clock-and-Data interface.
  - 3. Allows easy upgrade from magstripe to a proximity reader; no rewiring or pulling of new cable required.
  - 4. Offers high reliability, consistent read-range and low power consumption in an easy-to-install package.
  - 5. Mounts directly onto metal with no change in read range performance.
  - 6. Provides multicolor LED, compatibility with all standard access control systems and internal or host control of LED and beeper.
  - 7. Includes multilingual installation manual.



D. Specifications:

1. Typical Maximum\* Read Range
  - a. ProxCard® II card – up to 5.5 inches
  - b. ISOProx® II card – up to 5 inches
  - c. DuoProx® II card – up to 5 inches
  - d. Smart ISOProx®/DuoProx® cards – up to 5 inches
  - e. Proximity & MIFARE® card – up to 5 inches
  - f. ProxCard® Plus card – up to 2 inches
  - g. ProxKey® II keyfob – up to 2 inches
  - h. MicroProx® Tag – up to 2.5 inches
  - i. \*Depending on local installation conditions.
2. Dimensions:
  - a. 6.0 inches x 1.7 inches x 1.0 inch
3. Material:
  - a. Polycarbonate UL 94
4. Power Supply:
  - a. Standard MiniProx: 5-16 VDC
  - b. Haz. Loc. MiniProx: 5-16 VDC
  - c. Linear power supplies are recommended.
5. Current Requirements:
  - a. Max Average 30 mA
  - b. Typ Peak: 75 mA
6. Operating Temperature:
  - a. -22° to 150° F (-30° to 65° C)
7. Operating Humidity:
  - a. 0-95% relative humidity non-condensing
8. Weight:
  - a. With Terminal Strip: 3.5 oz.
  - b. With Pigtail: 3.8 oz.
  - c. Haz. Loc. MiniProx: 3.8 oz.
9. Transmit Frequency:
  - a. 125 kHz

10. Excite Frequency:
  - a. 125 kHz
11. Cable Distance:
  - a. Wiegand Interface: 500 feet
  - b. Clock-and-Data Interface: 50 feet
  - c. Recommended cable is ALPHA 1295 (22 AWG) 5 conductor
  - d. Minimum stranded with overall shield or equivalent. Additional conductors may be required for LED or beeper control.
12. Environmental:
  - a. IP55
13. Certifications:
  - a. UL294/cUL (US), FCC Certification (US), IC (Canada), CE (EU),
  - b. C-tick (Australia, New Zealand),
  - c. SRRC (China), MIC (Korea), NCC (Taiwan), MIC (Japan), iDA
  - d. (Singapore), RoHS

## 2.6 RTE SENSOR

- A. Manufacturer:
  1. BOSCH
    - a. #DS160

## 2.7 POWER SUPPLY – LOW VOLTAGE FOR RTE

- A. Integrator shall furnish and install a remote Power Supply within the data rooms as indicated within the drawings.
- B. These power supplies shall support the RTE (REX) devices.

## 2.8 DOOR CONTACTS

- A. Manufacturer:
  1. GE / SENTROL
    - a. #1076D

## 2.9 AUDIO VIDEO INTERCOM DOOR RELEASE

- A. The selected intercom door release model shall be:
  1. AIPHONE #IX-DV
    - a. QTY (per drawings)
- B. The selected master station shall be:

1. AIPHONE #IX-MV
  - a. QTY (per drawings)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

#### A. Device Locations

1. All device locations are to be field verified with the Owner prior to start of project. Architectural drawings are for approximation purposes only. Additional charges will not be allowed for outlet installation in areas not reviewed or approved by the Owner.

#### B. Examine pathway elements intended for cables. Check raceways and other elements for compliance with space allocations, installation tolerance, hazards to camera installation, and other conditions affecting installation.

#### C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 WIRING

#### A. Control and low-voltage s has been provided and installed by others and is referenced within the Drawings. This cabling has been roughed in and is within the junction boxes adjacent to each door requiring access controls. Final terminations to all devices are required by the bidding integrator of this section.

#### B. Final connections at both the device end and data closet and including any additional cable necessary for these connections is required as part of this bid.

### 3.3 INSTALLATION

#### A. Install all devices and infrared illuminators level and plumb.

#### B. Install power supplies and other auxiliary components at control stations unless otherwise indicated.

#### C. Identify system components, wiring, cabling, and terminals according to ANSI/EIA/TIA standards.

### 3.4 FIELD QUALITY CONTROL

#### A. Testing Agency: The Contractor shall engage a qualified testing agency to perform tests and inspections with the Owner and appointed project manager.

#### B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test,

and adjust components, assemblies, and equipment installations, including connections.

C. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

D. Tests and Inspections:

1. Inspection: Verify that units and controls are properly installed, connected, and labeled, and that interconnecting wires and terminals are identified.
2. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements.
3. Test Schedule: Schedule tests after pretesting has been successfully completed and system has been in normal functional operation for at least fourteen (14) days. Provide a minimum of ten (10) days notice of test schedule.
4. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation. Test equipment for proper operation in all functional modes.

E. Access Control System shall be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

### 3.5 ADJUSTING

A. Occupancy Adjustments: When requested within twelve (12) months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two (2) visits to Project during other-than-normal occupancy hours for this purpose. Tasks shall include, but are not limited to, the following:

1. Check cable connections.
2. Check proper operation of access control devices.
3. Provide a written report of adjustments and recommendations.

### 3.6 CLEANING

- A. Remove rubbish and debris: Installation contractor is not allowed you use the onsite dumpster and is responsible to discard their own debris off site.
- B. Clean installed items using methods and materials recommended in writing by manufacturer.

### 3.7 DEMONSTRATION – TRAINING

- A. By means of training classes augmented by individual instruction as necessary, the Bidding contractor shall fully instruct the BOE's designated staff and personnel in the operation, adjustment and maintenance of all products, equipment and systems.

B. General Training Requirements:

1. The security contractor shall submit proposal to conduct training courses for the security personnel in the operation and maintenance of the security systems within this security project.
2. The security contractor shall include training manuals and aids in the quantity as requested by the Owner. The training manuals shall include an agenda, defined objectives for each lesson, and a detailed description of the subject matter for each lesson. All personnel providing the instructions shall be certified by the equipment manufacturer for all applicable hardware and software.
3. Approval of the planned training content and training schedule shall be obtained by the Owner at least 45 days before the training is scheduled.
4. Training shall be provided by qualified, factory trained and certified engineers familiar with each system and its operations and shall be provided at the site for a period of no less than the hours stipulated below.

C. TRAINING TOPICS

1. System Administration Training
  - a. This training shall focus on determining and implementing system operational parameters.
  - b. The first training class shall be conducted so that it is completed approximately 30 days prior to acceptance of the system and final system reliability testing. **8 Hours of Administration training; (2) 4-hour classes.**
  - c. The second training class shall be conducted so that it is completed approximately 7 days prior to acceptance of the system and final system testing. The system administrator shall be included as part of this final system acceptance and reliability testing. **6 Hours of training; (2) 3-hour classes.**
  - d. This Administrations training shall include:
    - 1) Overall architecture and configuration of each system.
    - 2) Use of all system functions.
    - 3) ID badging design and production.
    - 4) Card-holder setup and configuration.
    - 5) Card-holder access level assignment.
    - 6) Access Door programming.
    - 7) Alarm setup and implementation.
    - 8) Data storage and retrieval through reports.
    - 9) Creation of reports.
    - 10) System database backup procedures.
    - 11) Hardware specifications.
    - 12) Fault diagnosis and corrections.
2. System User Monitoring Training
  - a. This training shall be for each designated personnel at this school.
  - b. This training shall focus on day-to-day system operations. Each user shall be capable to start the systems, operate them, recover the systems after a failure, and describe the specific hardware architecture and operation of the systems.
  - c. The first training class shall be conducted so that it is completed approximately 30 days prior to acceptance of the system and final system reliability testing. All

System User Training shall be performed at each school within this specification. **8 Hours of User training; (2) 4-hour classes.**

- d. The second training class shall be conducted so that it is completed approximately 7 days prior to acceptance of the system and final system testing. The system administrator shall be included as part of this final system acceptance and reliability testing. **6 Hours of User training; (2) 3-hour classes.**
- e. Training shall include:
  - 1) Use of overall system monitoring functions as determined by the security administration staff.
  - 2) Monitoring alarm events.
  - 3) Monitoring personnel access into the facility.
  - 4) Assessing, responding to, and clearing alarms and messages.
  - 5) Monitoring access door status.
  - 6) Running routine reports.
  - 7) General hardware architecture.
  - 8) Functional operation of each system and interaction between these systems.
  - 9) All Operator commands.
  - 10) Database entry.
  - 11) Report generation.
  - 12) Alarm assessment.
  - 13) Simple diagnostics.

### 3. System Troubleshooting and Maintenance Training

- a. Training shall be provided with the internal features and configuration of the security systems so the user can trouble shoot and repair most configuration and physical device problems.
- b. The training class shall be conducted so that it is completed approximately 14 days prior to acceptance of the system and final reliability testing. The users shall be included as part of this reliability testing. **8 Hours of training; (2) 4-hour classes.**
- c. This training shall include:
  - 1) System networking communications and diagnostics.
  - 2) Device configuration and programming.
  - 3) Controller setup.
  - 4) Wiring and cabling overview.
  - 5) System Diagnostics.
  - 6) Software troubleshooting.
  - 7) Physical layout of each piece of hardware.
  - 8) Preventive maintenance procedures and schedules.
  - 9) Calibration procedures.

### 4. IT Training

- a. Training shall be provided information of the security systems to the IT staff. This shall include information as to how each system functions within the LAN/WAN network infrastructures. **4 Hours of training.**
- b. Topics shall include:
  - 1) Network topologies.
  - 2) Maintenance of data security.

- D. Training hours and sessions must be documented by the instructor and approved by the Owner before project closeout.
- E. Should the training be deemed as inadequate by the Owner, the owner reserves the right to retain outside manufacturer training. If this outside manufacturer training has an associated cost, this cost shall be deducted from the final invoice of this project.
- F. The Owner reserves the right to request the Contractor to videotape training sessions and turn over video records (DVD format) to Owner as part of the "Owner Project Manuals" and Deliverables.

### 3.8 LICENSING AND COMPETENCY

- A. This Contractor shall be a bona fide security systems contractor, licensed by the State of Connecticut for the installation of the low voltage security and signal communication systems, and engaged in security system maintenance, service and contracting for at least the last five years.
- B. The Contractor shall employ technicians who have been trained by the Manufacture specified within this section to install the systems of this manufacture.
- C. The contractor shall be a factory authorized stocking distributor of the manufacturer of the equipment included in the system so that immediate replacement parts can be made from inventory and service provided as needed on an emergency basis.
- D. The Contractor shall submit with the bid a manufacturer's certificate of acceptance of the qualifications of the Installing Contractor to install, test, maintain and repair the manufacturer's equipment.
- E. In order for the Security Consultant to verify that they meet the competency requirements of this specification, Contractors must submit the following information if so requested:
  - 1. Proof that the Contractor has installed, services and maintained similar security systems for a minimum of ten (10) years.
  - 2. Proof that the Contractor is a firm which currently and regularly installs, services and maintains security systems as a full time business.
  - 3. The names and qualifications of security system technicians that shall perform and supervise the work, and perform tests or adjustments on the systems and equipment. Qualifications shall include all schooling, training, and history of work experience.
  - 4. A list of four prior systems comparable to the one specified under this contract which were installed, serviced, and maintained satisfactorily by the Contractor for a minimum of one (1) year. Each system listed shall include the firm or owner, location, person to contact (with telephone number), date of installation and service period, and a brief description of the system and work performed on the system.
- F. The Contractor shall submit any other information required by the Security Consultant to determine the competency of the Contractor. If this information is not submitted as requested, it shall be submitted within the time specified by the Architect after the bid opening. If the Contractor fails to submit the information in accordance with the Security Consultant's

request, the Contractor shall be declared non-responsive, and may be rejected to perform the work specified within this section.

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END OF SECTION 28 13 00





Intercom door station: IX-DV



Intercom door station with reader: IX-DVF-P  
(requires back box SBX-IDVFRA)



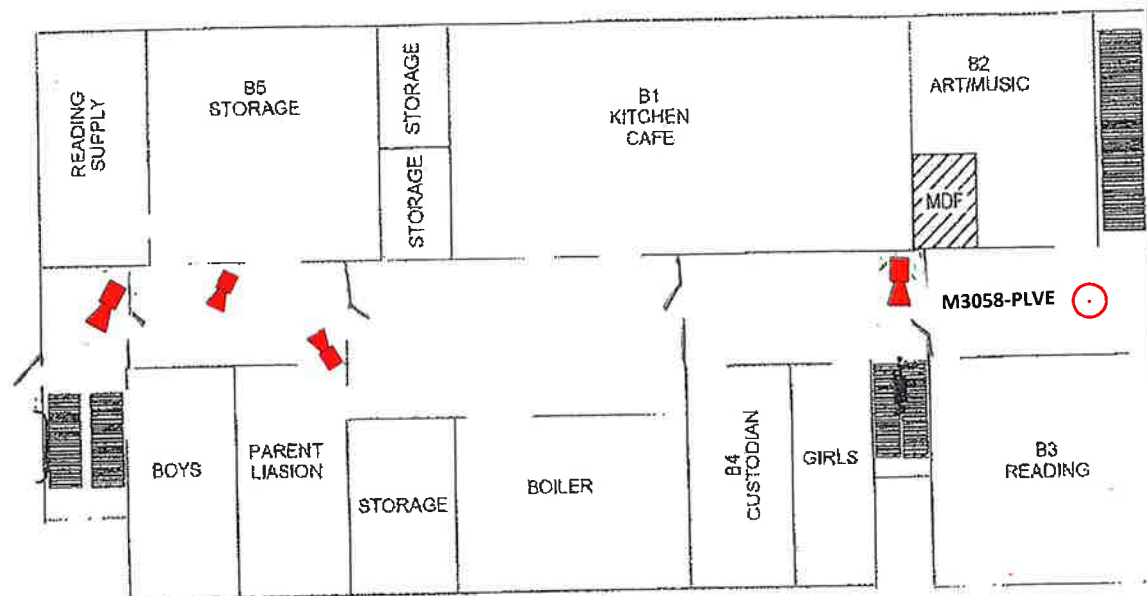
Intercom master- IX-MV7-HB



Card reader-HID multi class RP40



Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse



1 BASEMENT FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

**ADULT ED.**

\*\*\* All interior cameras marked with this symbol

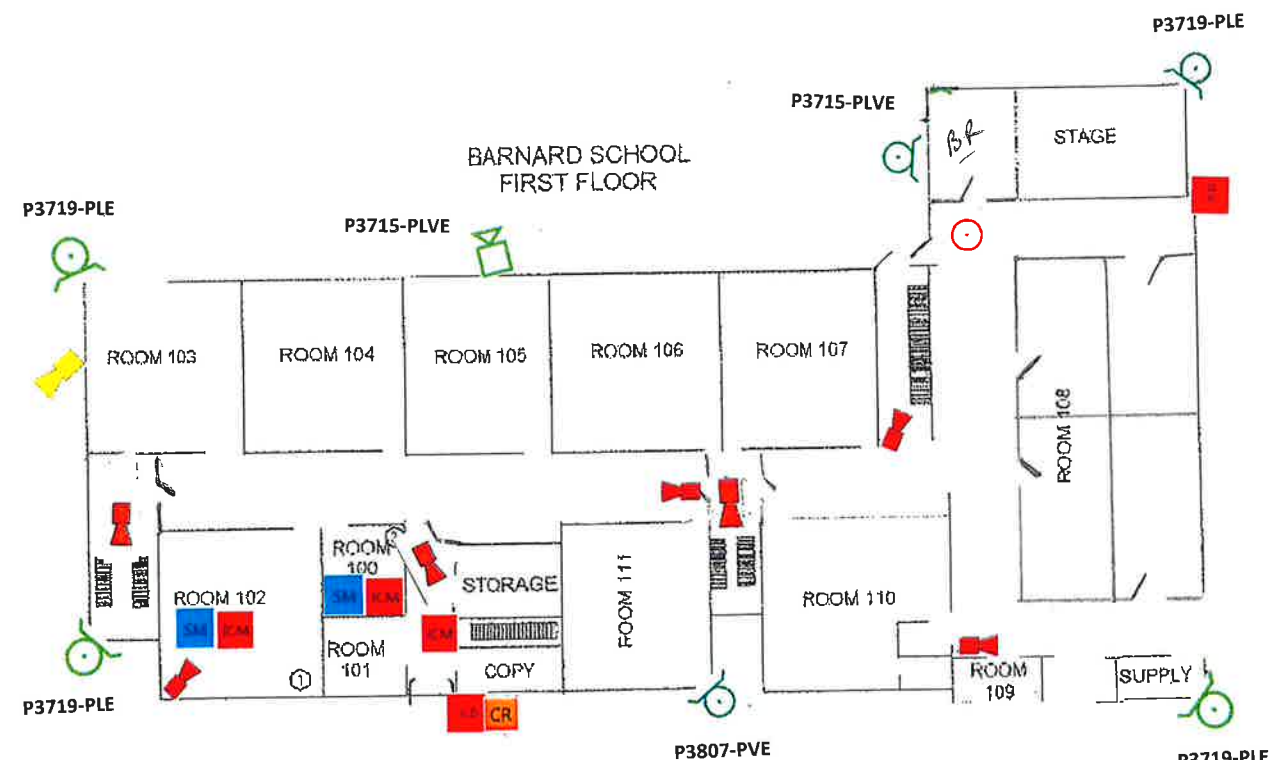


are to be M3066-V \*\*\*

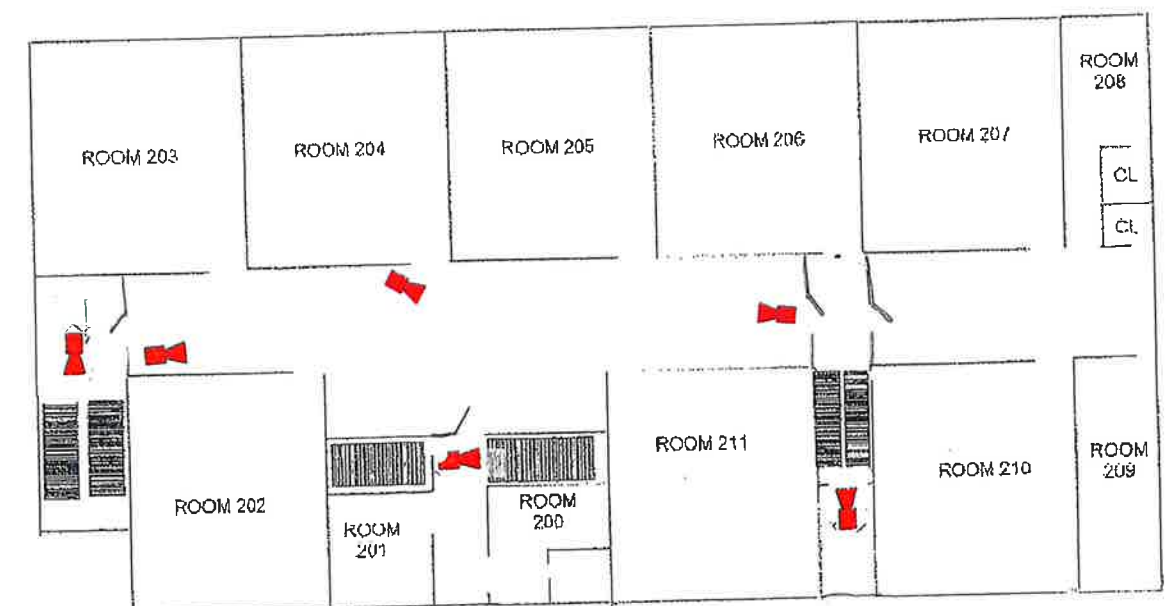
\*\*\* All interior cameras marked with this symbol



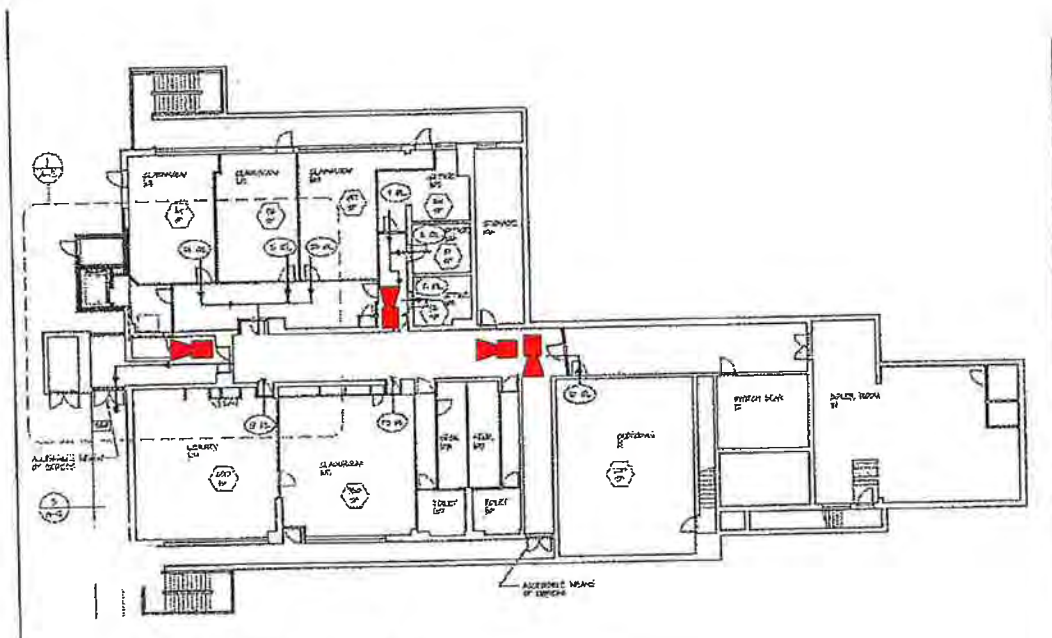
are to be M3058-PLVE \*\*\*



2 FIRST FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



3 SECOND FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



1 BASEMENT FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

\*\*\* All interior cameras marked with this symbol



are to be M3066-V \*\*\*

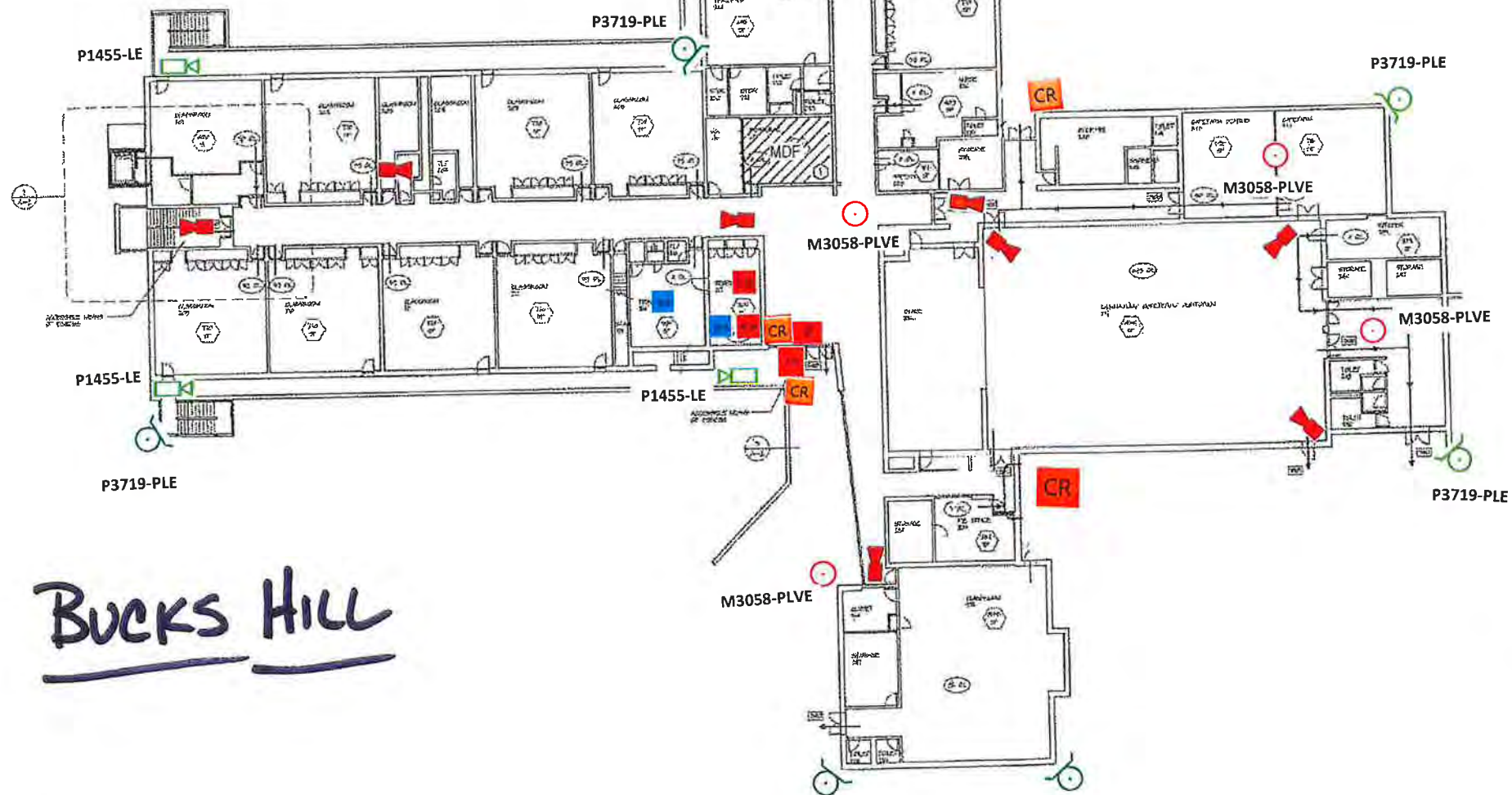
\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*

- ICD Intercom door station: IX-DV
- ICM Intercom master- IX-MV7-HB
- CR Card reader-HID multi class RP40

Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse

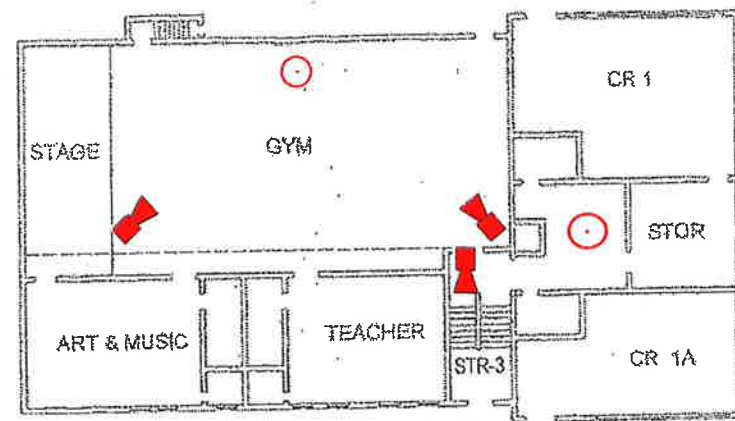


2 FIRST FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

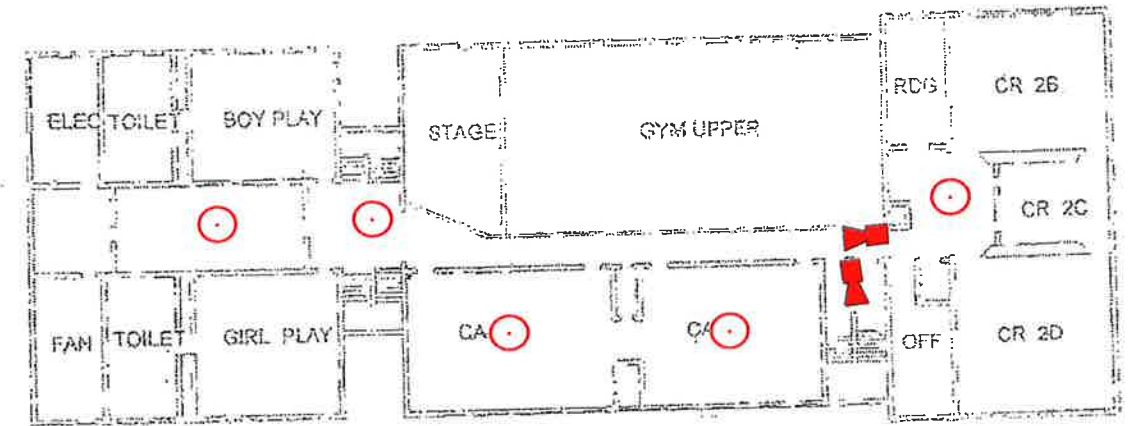
Bucks Hill



Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse



1 GYMNASIUM FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



2 BASEMENT FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

- ICD Intercom door station: IX-DV
- Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
- ICM Intercom master- IX-MV7-HB
- CR Card reader-HID multi class RP40

\*\*\* All interior cameras marked with this symbol

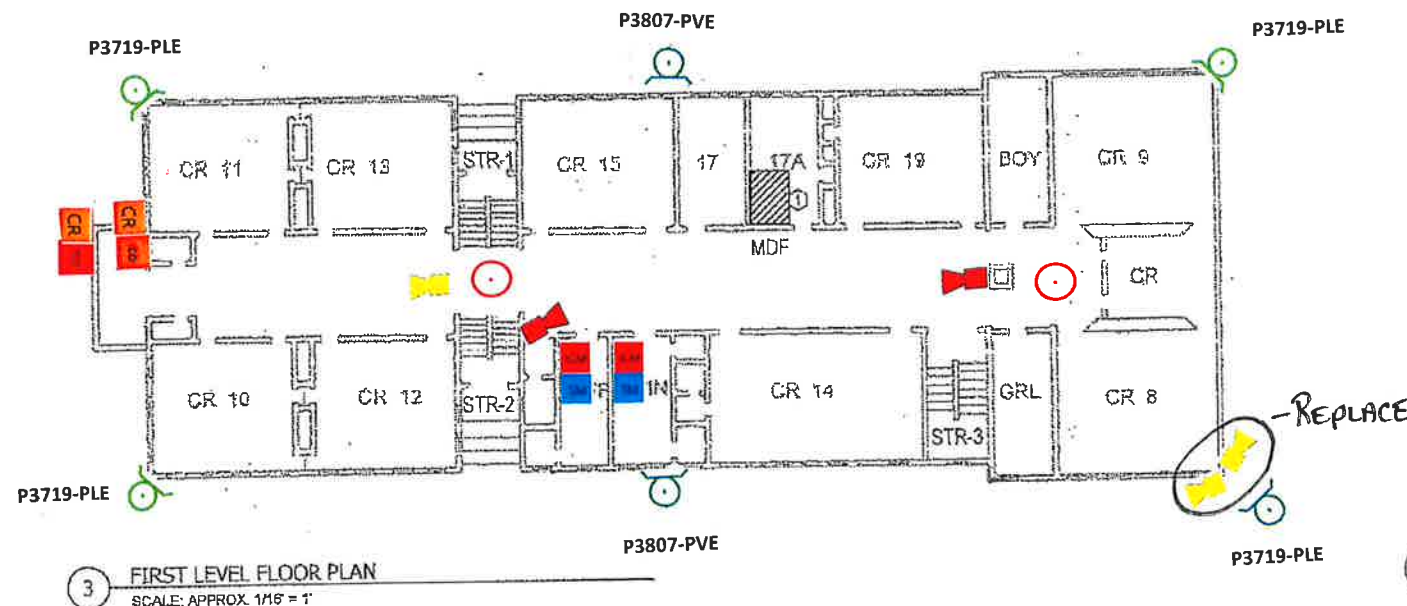


are to be M3066-V \*\*\*

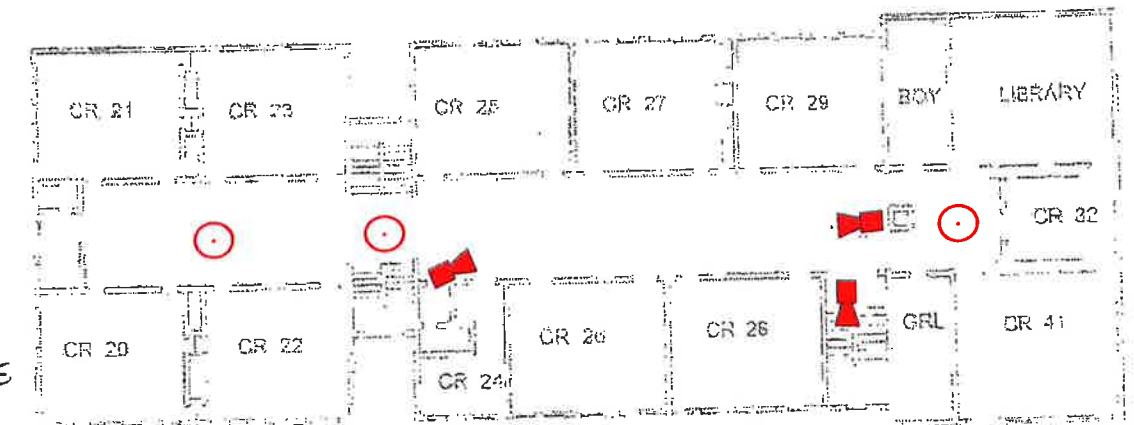
\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*



3 FIRST LEVEL FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



4 SECOND LEVEL FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

BUNKER HILL



\*\*\* All interior cameras marked with this symbol



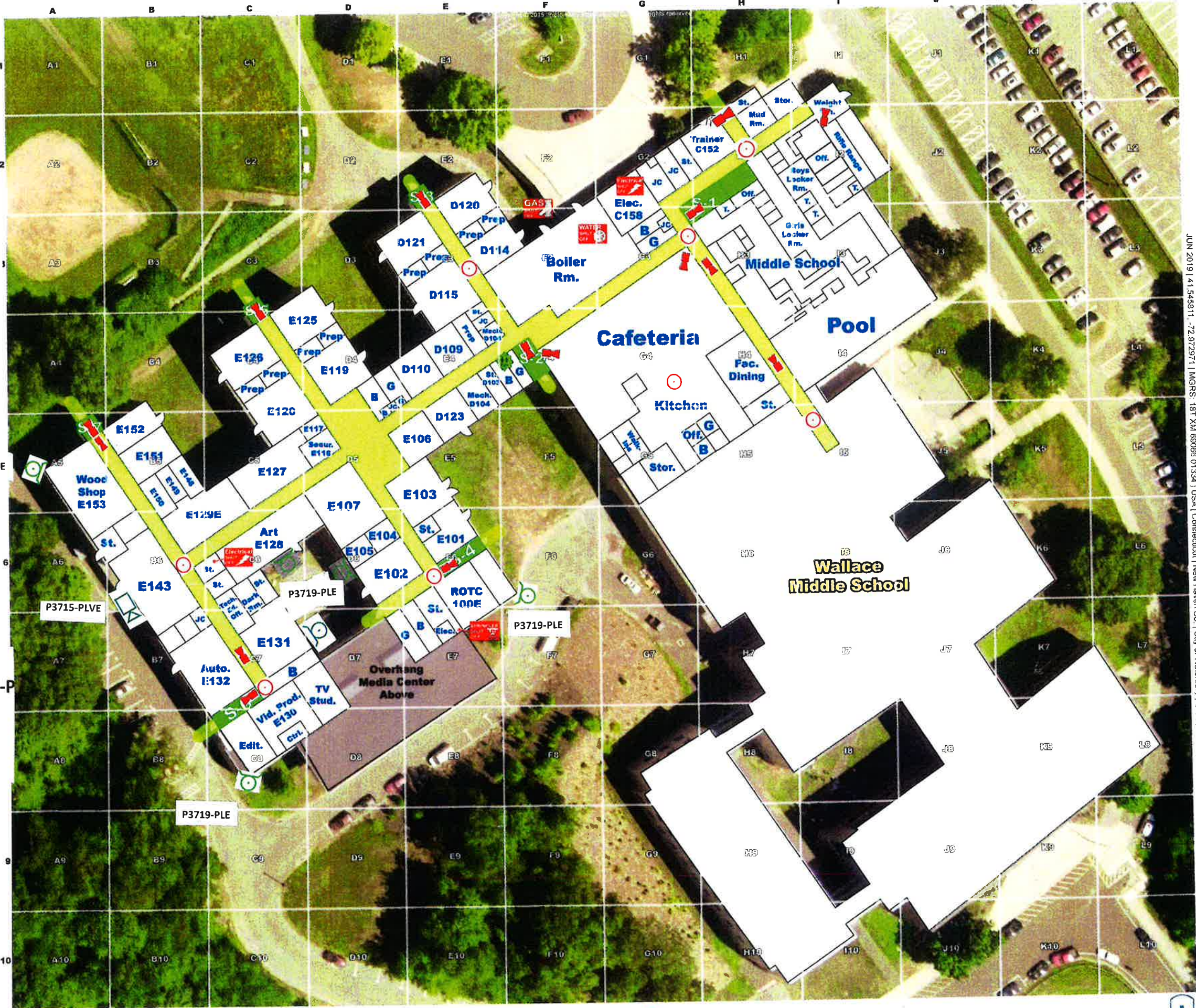
are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*

- Intercom door station: IX-DV
- Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
- Intercom master- IX-MV7-HB
- Card reader-HID multi class RP40
- Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse

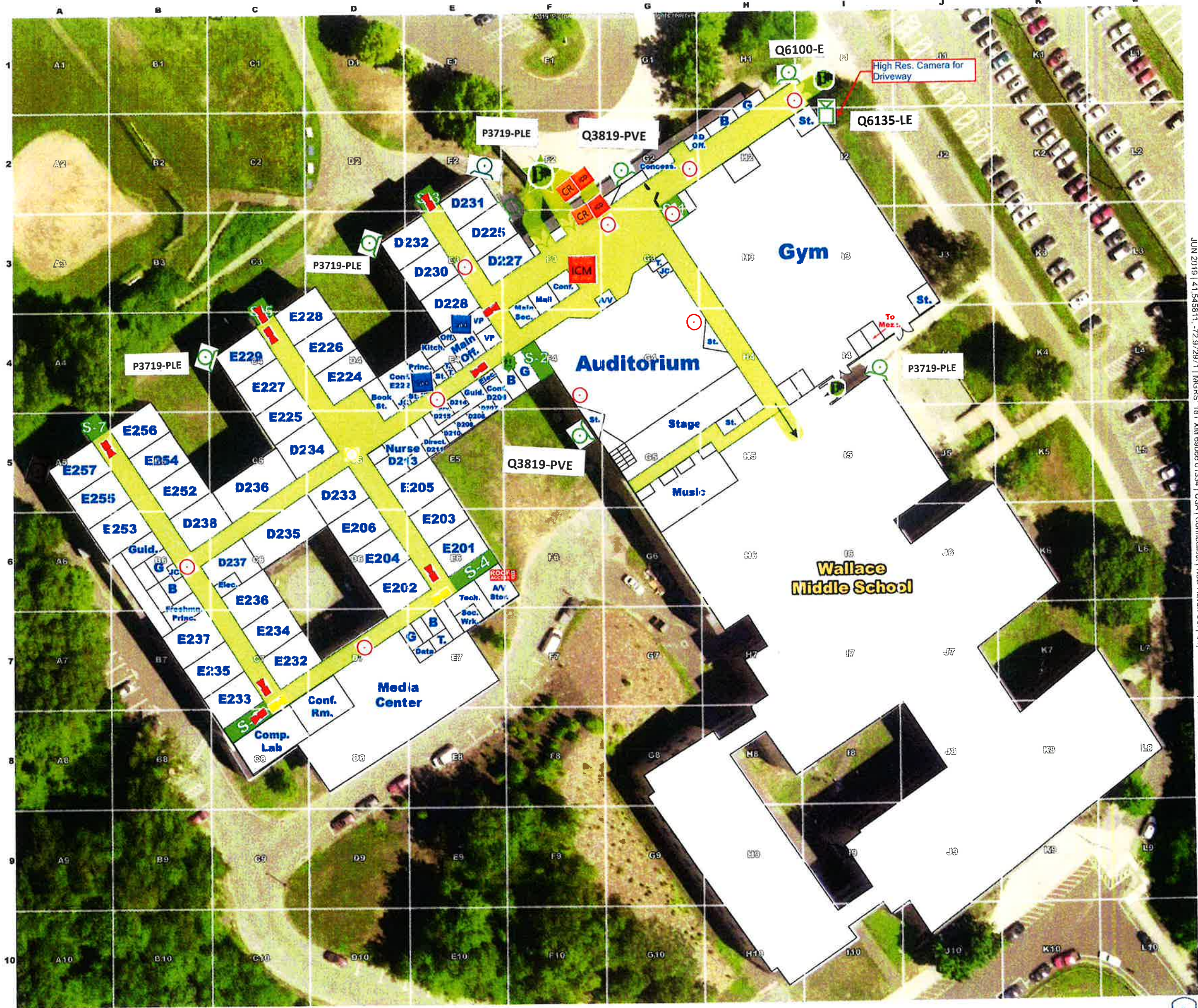


**Lower Level - Micro**  
Crosby High School  
300 Pierpont Rd, Waterbury, CT 06705

JUN 2019 | 41 545811 -72.972971 | MGRS: 18T XM 69066 01334 | USA | Connecticut | New Haven Co. | City of Waterbury | Grades: 9-12 | PDF - 1150

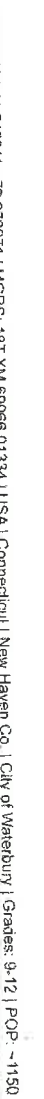






JUN 2019 | 41 545811, -72.972971 | MGRS: 18T XM 69066 01334 | USA | Connecticut | New Haven Co. | City of Waterbury | Grades: 9-12 | POP: ~1150












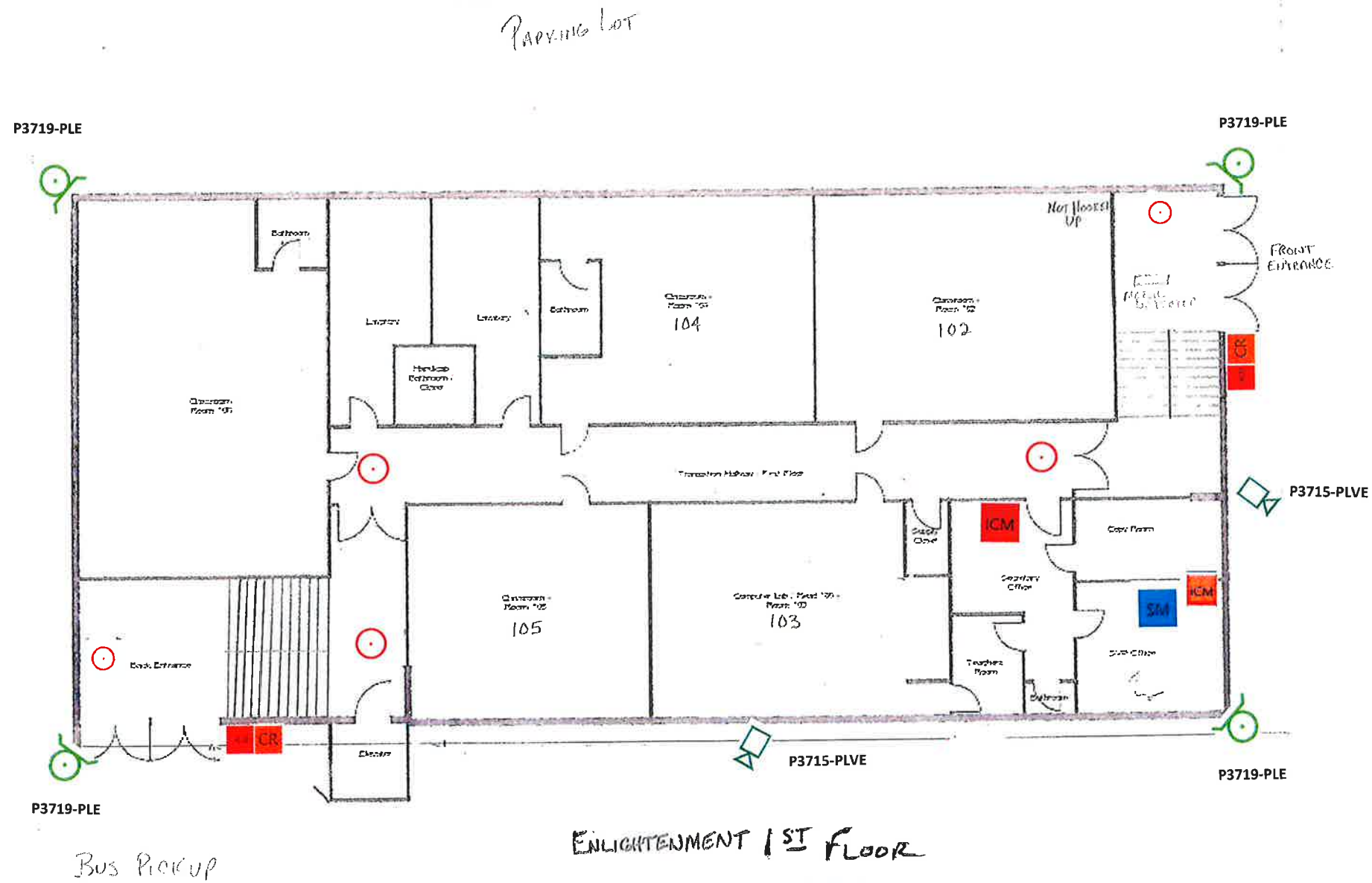


\*\*\* All interior cameras marked with this symbol



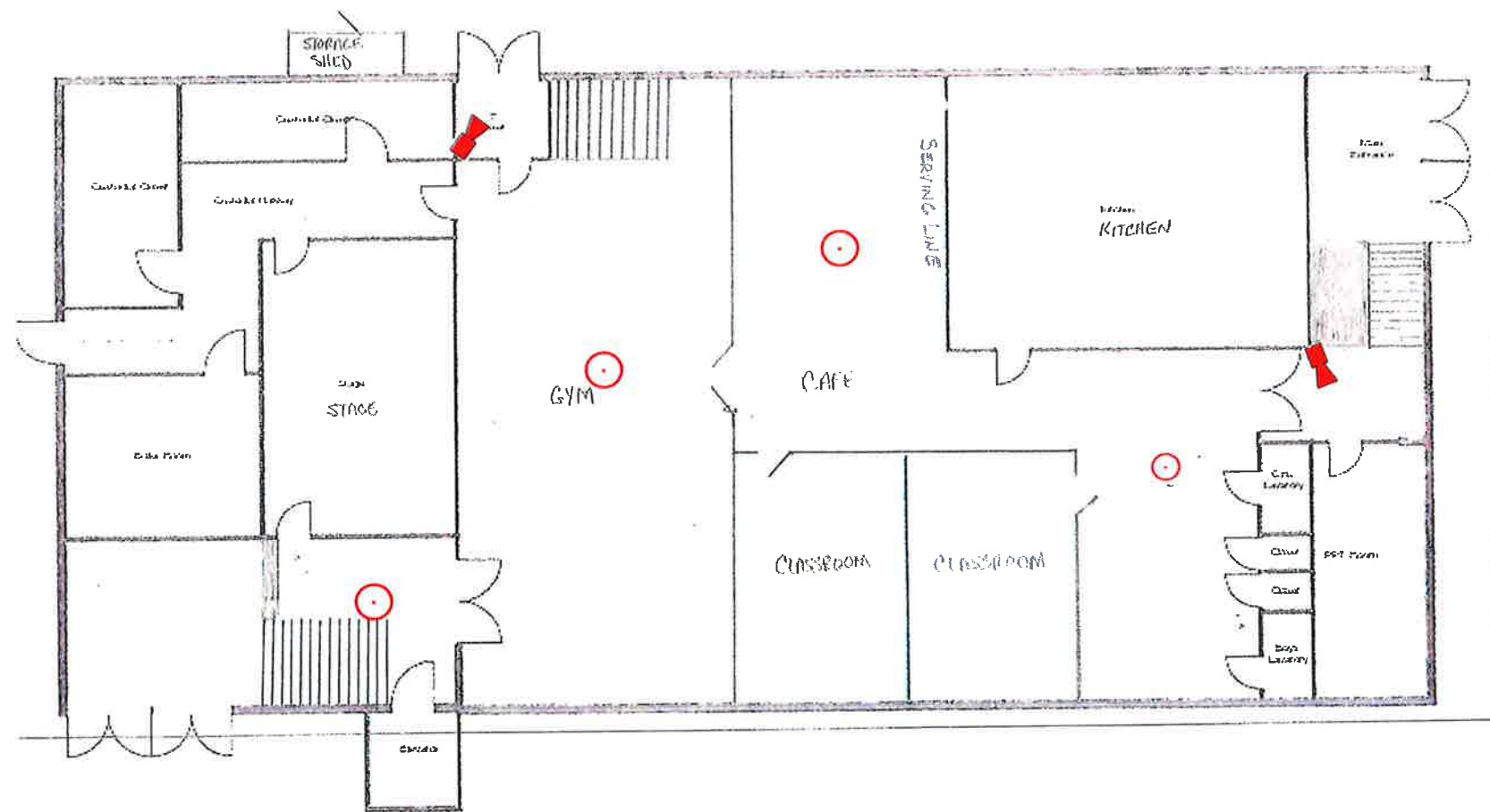
are to be M3058-PLVE \*\*\*

-  Intercom door station: IX-DV
-  Intercom door station with reader: IX-DVF-P  
(requires back box SBX-IDVFRA)
-  Intercom master- IX-MV7-HB
-  Card reader-HID multi class RP40
-  Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse









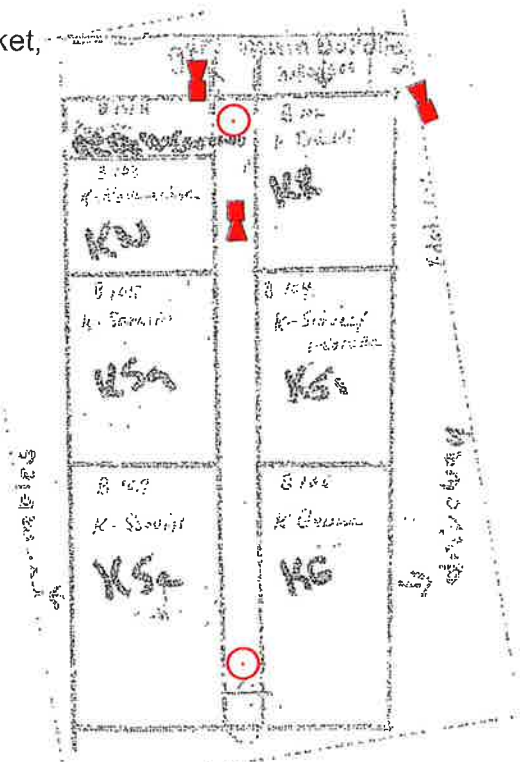




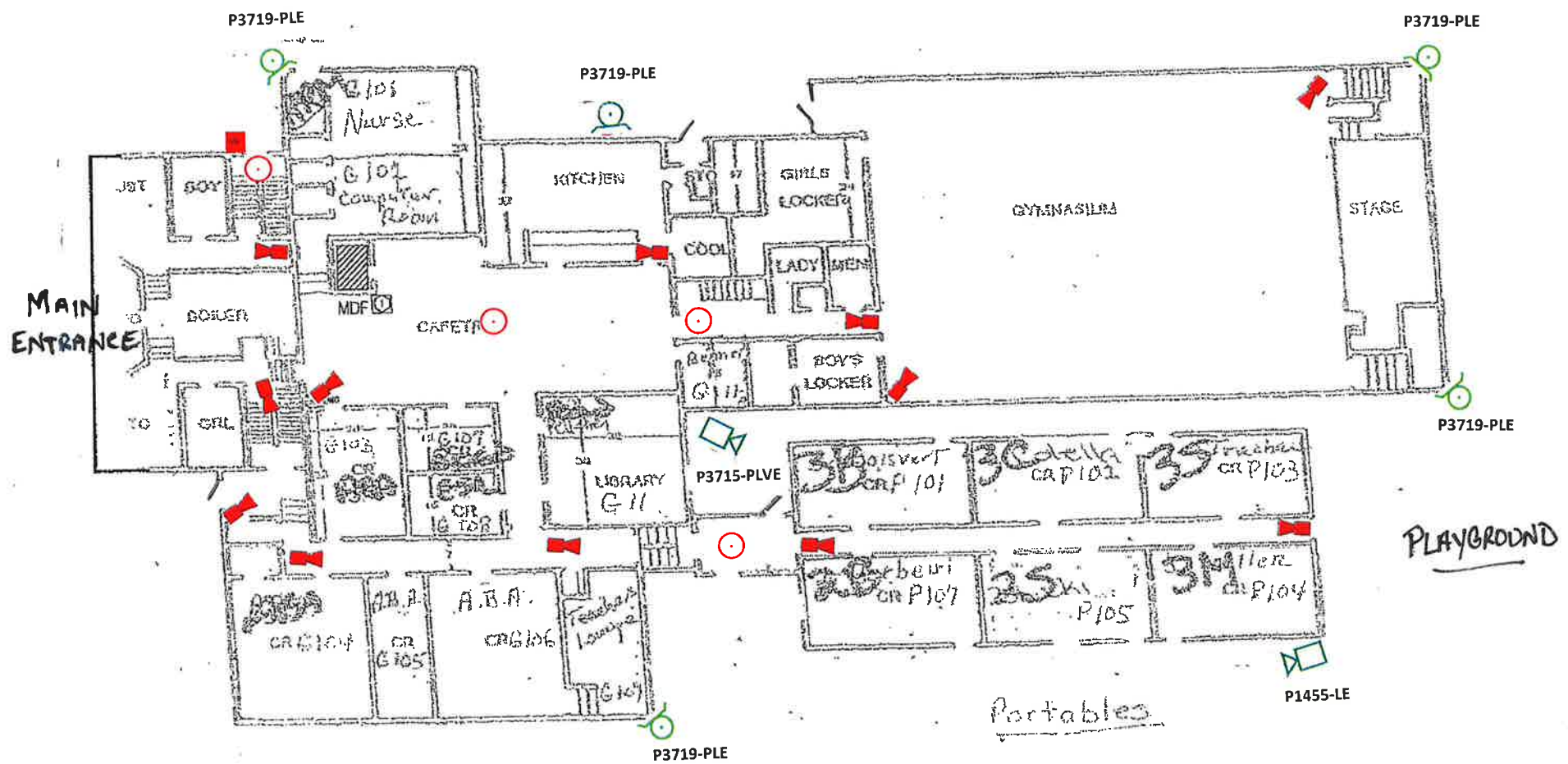
ENLIGHTENMENT BASEMENT

-  Intercom door station: IX-DV
-  Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
-  Card reader-HID multi class RP40

 Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse



1 BASEMENT FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



2 LOWER LEVEL FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

\*\*\* All interior cameras marked with this symbol



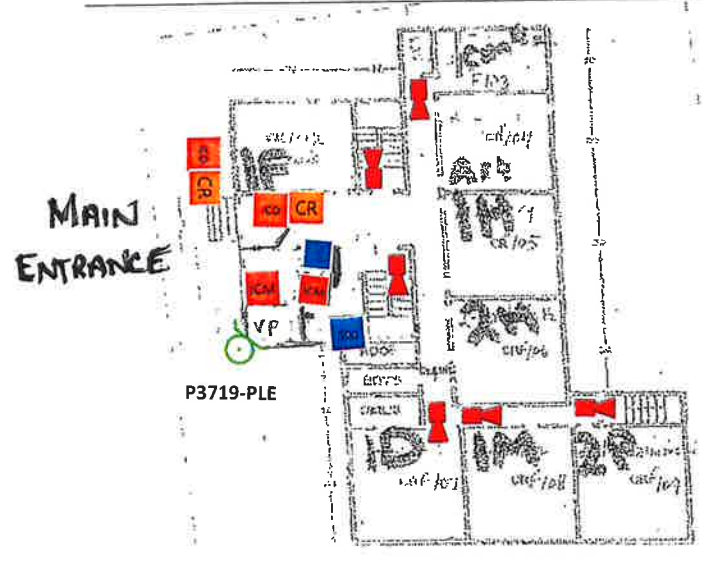
are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol

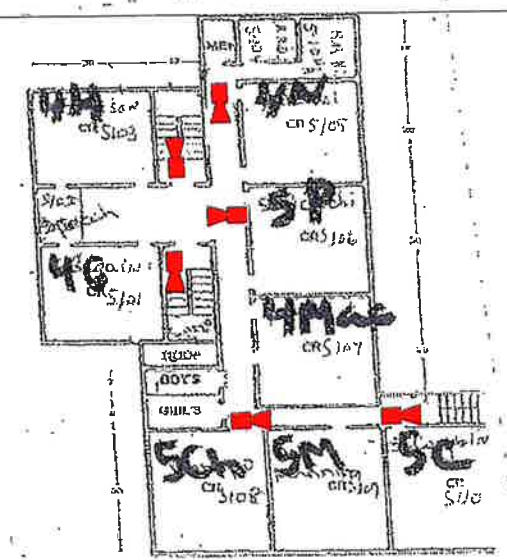


are to be M3058-PLVE \*\*\*

GENERAL



3 FIRST LEVEL FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



4 SECOND LEVEL FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



# GILMARTIN 1ST FLOOR (PART A)



\*\*\* All interior cameras marked with this symbol



are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*



Intercom door station: IX-DV

Intercom door station with reader: IX-DVF-P  
(requires back box SBX-IDVFRA)



Intercom master- IX-MV7-HB



Card reader-HID multi class RP40



Spot Monitor: (2) 55" TV's with Wall Bracket,

Micro PC, long range keyboard & Mouse

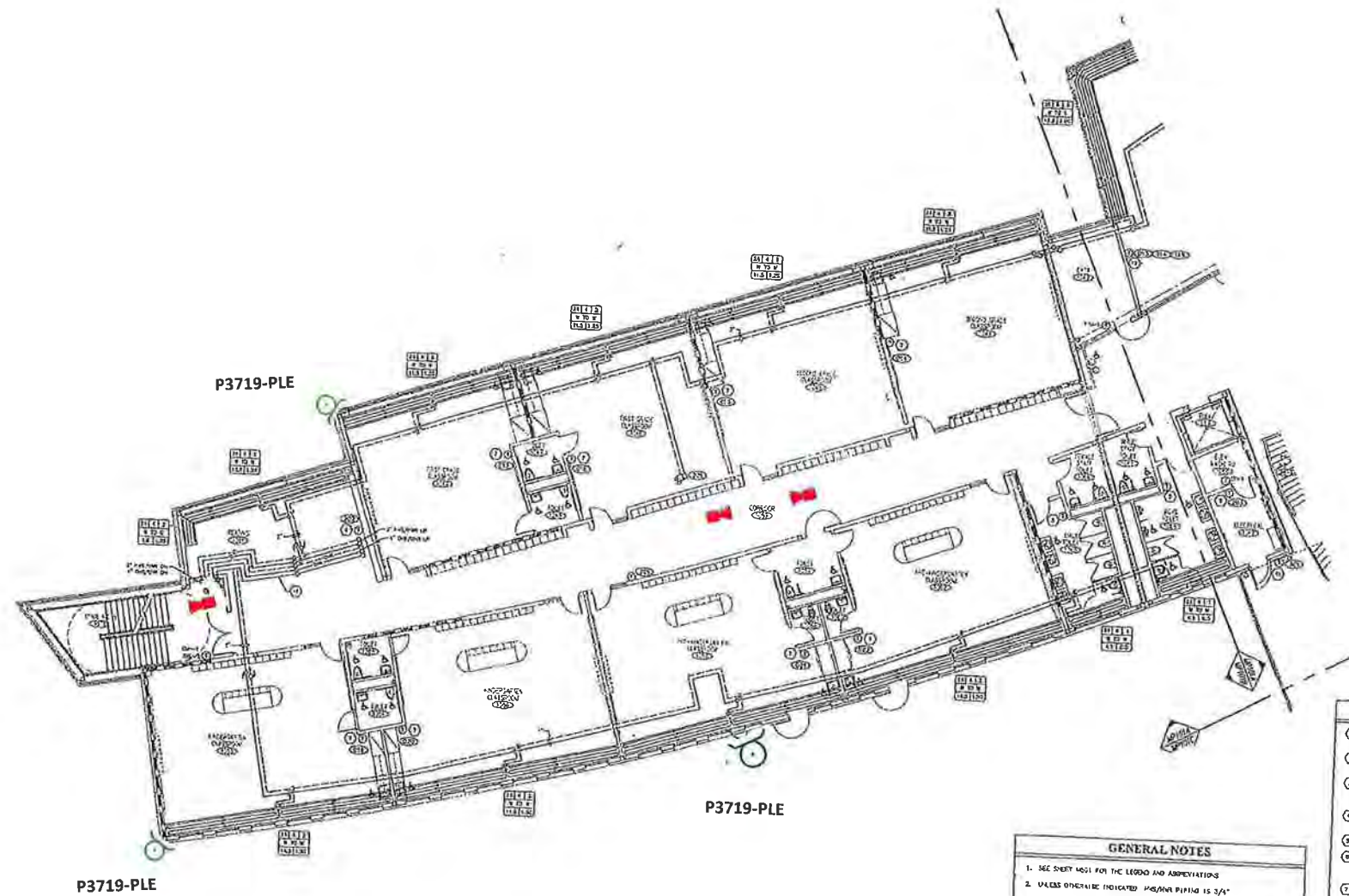
## GENERAL NOTES

1. SEE SHEET 1001 FOR THE LEGEND AND ABBREVIATIONS
2. UNLESS OTHERWISE INDICATED, MECHANICAL PIPING IS 3/4"

## KEY NOTES

1. 3" INSIDE, 4" OUTSIDE, 4" DIA., 4" DIA. PIPING BELOW GROUND. SEE 20-100 FOR CONTINUATION AND BELOW GROUND PIPING MATERIALS.
2. PHASE 1 PIPING ONLY SERVING PHASE 1 LOCATIONS OF GASES & OILS. REMOVE PIPING WHEN OILS & GASES ARE ISOLATED DURING PHASE 2.
3. PHASE 1 LOCATION OF GAS/HEAT UNIT HEATER. LOCATION APPROPRIATE ONLY. LOCATE UNIT IN ACTUAL LOCATION OF EXISTING PARTITION. SEE KEY NOTE 4 FOR FINAL LOCATION.
4. FINAL LOCATION OF GAS/HEAT UNIT HEATER. SEE KEY NOTE 3 FOR PHASE 1 LOCATION.
5. TEMPERATURE SENSOR FOR RADIANT CEILING PANEL ONLY.
6. TEMPERATURE SENSOR FOR RADIANT CEILING PANELS AND AIR DUCT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
7. TEMPERATURE SENSOR FOR RADIANT CEILING PANELS AND DUAL DUCT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
8. TEMPERATURE SENSOR FOR DUAL MOUNTED HEATING RADIANT DUCT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
9. TEMPERATURE SENSOR FOR AIR DUCT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
10. TEMPERATURE SENSOR FOR RADIANT CEILING PANELS AND MULTIPLE VAV TERMINAL UNITS. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNITS.
11. PHASE 1: CABINET UNIT HEATER. PHASE 2: VAV TERMINAL UNIT.
12. TEMPERATURE SENSOR FOR CABINET UNIT HEATER AND AIR DUCT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
13. VARIABLE FREQUENCY DRIVE FOR COOLING TOWER CE-1
14. 4" VIBRATION ISOLATION BEAMS FOR PUMP CHANGERS ONLY SEE 1001

GILMARTIN  
1<sup>ST</sup> FLOOR (PART B)



**P3719-PLE**

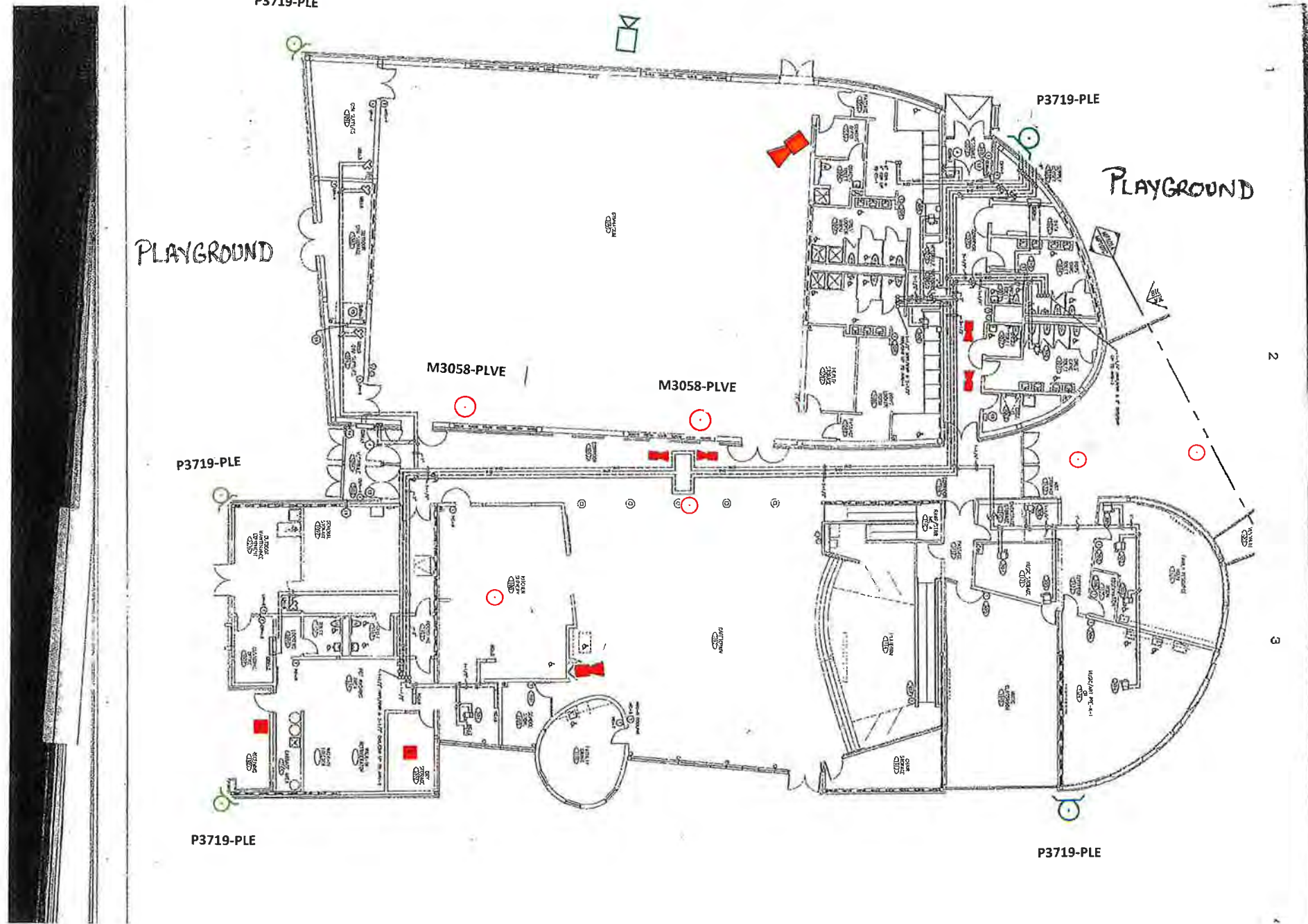
**GENERAL NOTES**

1. SEE SHEET 4001 FOR THE LEGEND AND ABBREVIATIONS
2. UNLESS OTHERWISE INDICATED HOS/INR PIPING IS 3/4"

## KEY NOTES

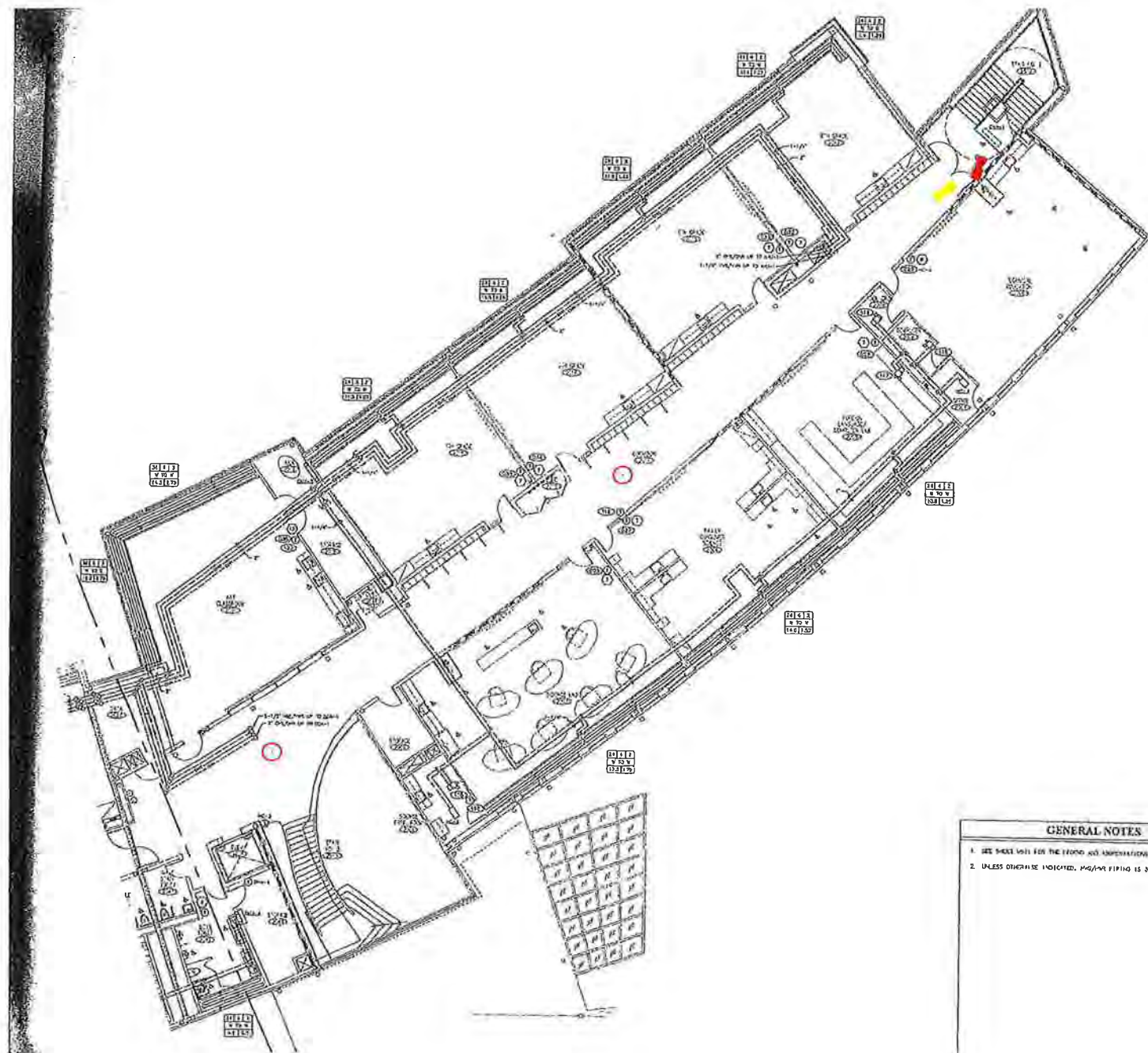
- 21 1" MINIMUM, 1" MAXIMUM, 3" DIA, 8" LONG FOR 30-40 PSI CONTINUATION AND BELOW PANELS
- 22 PHASE 1: PIPING DUTY WHEN PHASE 1 LOCATION ABOVE PIPING BEING SIZED & 0.04-HA AREA REDUCED
- 23 PHASE 2: LOCATION OF CASINET UNIT HEATER, IF SPILT LOCATION IN AN ACTUAL LOCATION OF THE UNIT, KEEP SAME 4' FROM PIPING LOCATION
- 24 FINAL LOCATION OF CASINET UNIT HEATER, SEE 1 LOCATION
- 25 TEMPERATURE SENSOR FOR RADIANT HEATING PANEL
- 26 TEMPERATURE SENSOR FOR CASINET HEATING PANEL
- 27 TEMPERATURE UNIT - SEE MECHANICAL PLANS FOR LOG TEMPERATURE UNIT
- 28 TEMPERATURE SENSOR FOR RADIANT HEATING PANEL
- 29 TEMPERATURE UNIT - SEE MECHANICAL PLANS FOR TEMPERATURE UNIT
- 30 TEMPERATURE SENSOR FOR AIR ONLY VAN TERMINAL
- 31 MECHANICAL PLANS FOR LOCATIONS OF VAN TERMINAL
- 32 TEMPERATURE SENSOR FOR RADIANT HEATING PANEL
- 33 TEMPERATURE UNIT - SEE MECHANICAL PLANS FOR LOG TEMPERATURE UNIT
- 34 PHASE 1: CASINET UNIT HEATER, PHASE 2: VAN UNIT
- 35 TEMPERATURE SENSOR FOR CASINET UNIT HEATER AND TEMPERATURE UNIT - SEE MECHANICAL PLANS FOR LOG TEMPERATURE UNIT
- 36 VARIABLE FREQUENCY DRIVE FOR COOLING TOWER FAN
- 37 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
- 38 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
- 39 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
- 40 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
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- 98 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
- 99 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET
- 100 3" SCHEDULE 40 STEEL BURNER FOR FURNACE OUTLET





GILMARTIN  
1<sup>ST</sup> FLOOR (PART C)

GILMARTIN  
2ND FLOOR (PART A)



GENERAL NOTES

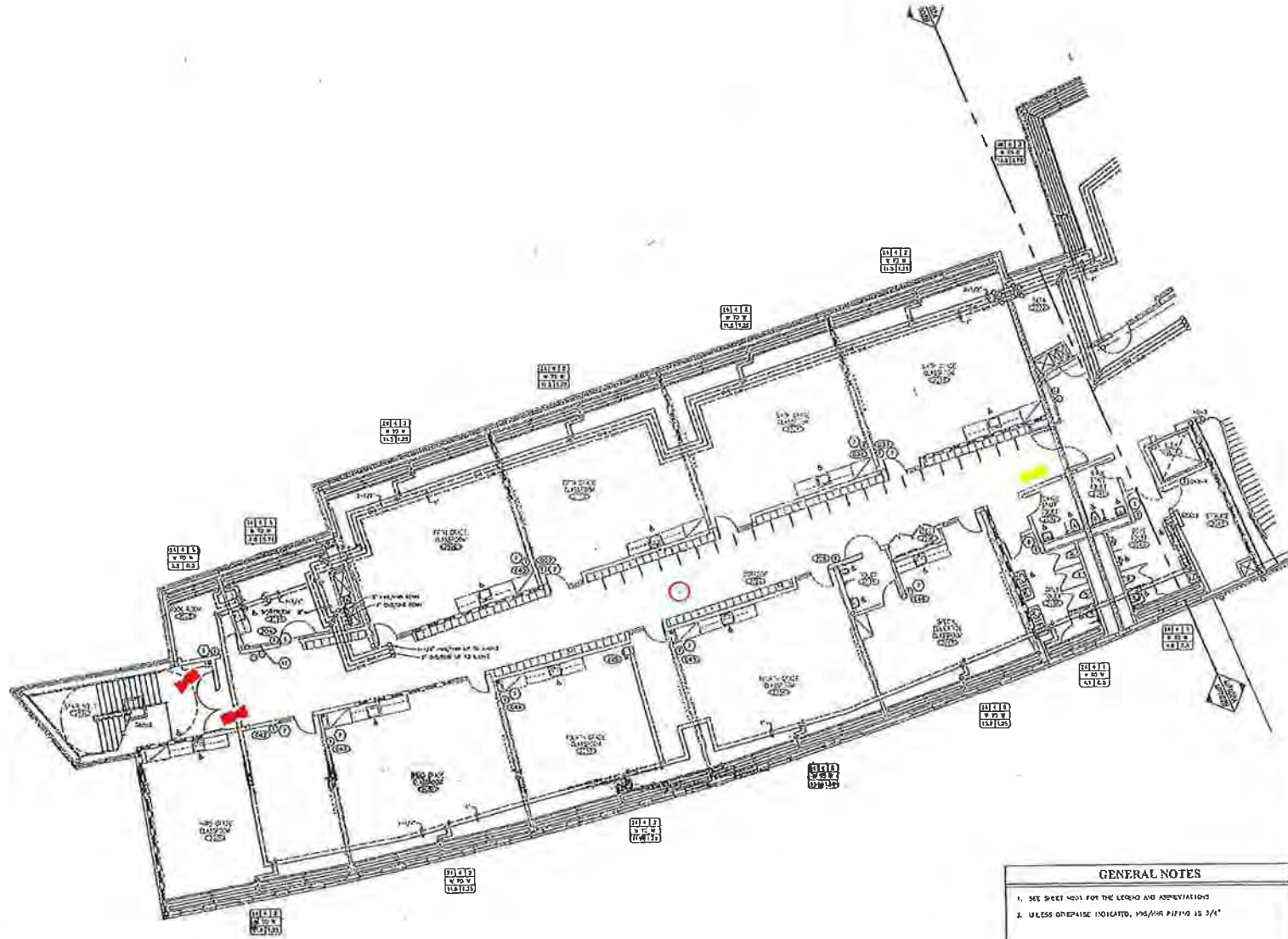
1. SEE SHEET 1011 FOR THE FILING AND DIMENSIONS
2. UNLESS OTHERWISE INDICATED, MAG/MP FILING IS 3/4"

## KEY NOTES

3. 2" MECHANICAL, 4" DUCTILE, 6" COOL, & 8" FOR PIPING BEHIND WALLS, 10-12" FOR OVERTOPPING AND BELOW PIPE TYPING MATERIALS.
  4. PAPER 1: PIPING OUT SERVICE BARGE 1. LOCATIONS OF CLASS 3 BURN-PROOF PIPING MAX 3" DIA. 4" DIA. ARE DESIGNATED BARGE 2.
  5. PAPER 1: LOCATIONS OF EXHIBIT UNIT HEATER. LOCATION APPROXIMATE DIRECTION OF FLOW OF AIR FROM HEATER TO TOPGRAPH LOCATION. SEE NEW NOTE # 3 FOR FLOW DIRECTION.
  6. FINAL LOCATION OF EXHIBIT UNIT HEATER. SEE NEW NOTE 3 FOR FINAL LOCATION.
  7. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANEL ONLY
  8. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANELS AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF VAV TERMINAL UNIT.
  9. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANELS AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF VAV TERMINAL UNIT.
  10. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANELS AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF VAV TERMINAL UNIT.
  11. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANELS AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF VAV TERMINAL UNIT.
  12. TEMPERATURE SENSOR FOR EXHIBIT HEATING PANELS AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF VAV TERMINAL UNIT.
  13. PAPER 1: EXHIBIT UNIT HEATER. PAPER 2: VAV TERMINAL UNIT.
  14. TEMPERATURE SENSOR FOR EXHIBIT UNIT HEATER AND AIR OUT VAV TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF VAV TERMINAL UNIT.
  15. VENTILATION FREQUENCY-DIRECT FOR COOLING TOWER (C-T)
- IF AVAILABLE AIR FLOW MEASUREMENT FOR FUTURE DESIGN, DUCT SYSTEM REQUIREMENTS PIPING, POWER AND/OR WATER SUPPLY FOR DUCT SYSTEM FOR FLOW OF AIR FROM HEATER TO EXHIBIT SYSTEM (HEATER).



GILMARTIN  
2ND FLOOR (PART B)



## GENERAL NOTE

1. SEE NEXT PAGE FOR THE LEGEND AND ABBREVIATIONS
2. UNLESS OTHERWISE INDICATED, PWS/HRS PIPING IS 3

## KEY NOTE

- ① IF AVAILABLE, *IN SITU* AIR QUALITY DATA FOR THE BUILDING SHOULD BE USED FOR IDENTIFICATION AND MODELING OF AIR QUALITY IMPACTS
- ② PHASE 1: DETERMINE THE REQUIRED RANGE OF VARIATION OF DESIGN PARAMETERS WHICH MAY BE USED TO IDENTIFY AIR QUALITY IMPACTS
- ③ PHASE 1: LOCATION OF CABINET UNIT HEATER. LOCATION AT WHICH TO LOCATE UNIT IS ACTUAL LOCATION OF TEMPORARY FAN. SEE KEY NOTE 4 FOR FINAL LOCATION.
- ④ FINAL LOCATION OF CABINET UNIT HEATER. SEE KEY NOTE 1 LOCATION.
- ⑤ TEMPERATURE SENSOR FOR RADIANT CEILING PANEL OUT.
- ⑥ TEMPERATURE SENSOR FOR RADIANT HEATING PANEL, AND AIR TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF TERMINAL UNIT.
- ⑦ TEMPERATURE SENSOR FOR RADIANT HEATING PANEL, AND AIR TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF TERMINAL UNIT.
- ⑧ TEMPERATURE SENSOR FOR DUCT HEATERS HEATING DUCT AND AIR TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATION OF TERMINAL UNIT.
- ⑨ TEMPERATURE SENSOR FOR AIR DUCT VAV TERMINAL UNIT. MECHANICAL PLANS FOR IDENTICAL LOCATIONS OF VAV TERMINAL UNIT.
- ⑩ TEMPERATURE SENSOR FOR RADIANT FLOOR PANELS/IN AND AIR TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF TERMINAL UNIT.
- ⑪ PHASE 1: CABINET UNIT HEATER. PHASE 2: VAV TERMINAL UNIT.
- ⑫ TEMPERATURE SENSOR FOR CABINET UNIT HEATER AND AIR TERMINAL UNIT. SEE MECHANICAL PLANS FOR LOCATIONS OF TERMINAL UNIT.
- ⑬ VARIABLE FREQUENCY DRIVE FOR COOLING TOWER FAN (V-F)
- ⑭ IF AVAILABLE, IN SITU AIR QUALITY DATA FOR BUILDING SHOULD BE USED FOR IDENTIFICATION AND MODELING OF AIR QUALITY IMPACTS
- ⑮ COOLING OF FURNACE PHOTOREACTIVE SYSTEM (INJECTION)
- ⑯ BID ALTERNATE 8

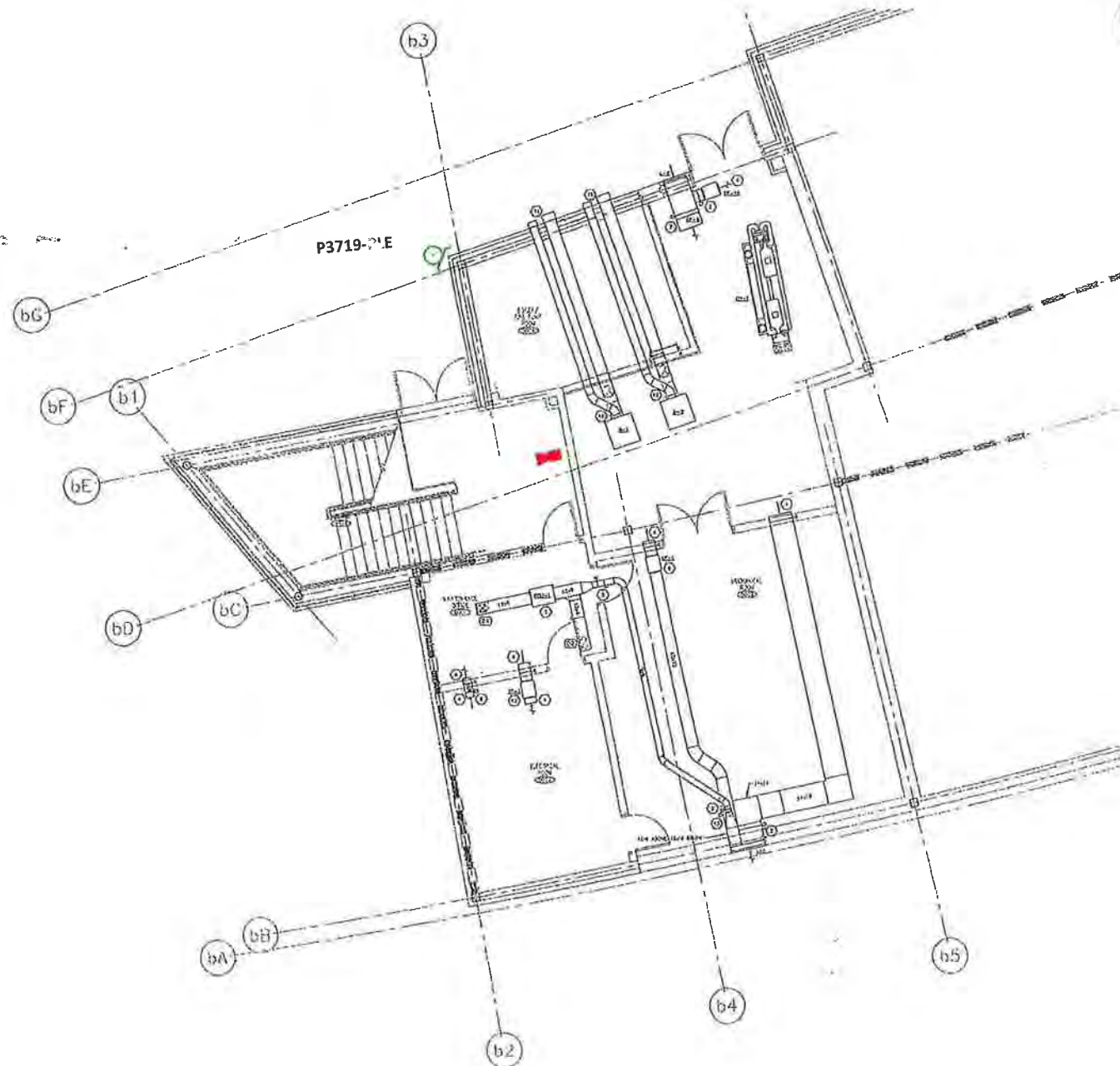
# GILMARTIN BASEMENT

## GENERAL NOTES

1. SEE SHEET 1001 FOR THE LEGEND AND APPROPRIATIONS

## KEY NOTES

1. PROVIDE TWO INDEPENDENT VALVED EXHAUSTIVE DRAINS - ONE FROM THE UNIT AND ONE FROM THE EXHAUST DRAIN TANK. ROUTE THE DRAINS TO A PLUMB DRAIN IN THE MECHANICAL OR THE FIRE PUMP ROOM.
2. PROVIDE FLEXIBLE DUCT CONNECTIONS ON THE INLET AND DISCHARGE.
3. MOUNT THE UNIT AS HIGH AS POSSIBLE. PROVIDE (1) VIBRATION ISOLATION TYPIC HANGING HOISTS. SUPPORT THE EXHAUST INDEPENDENTLY FROM THE UNIT.
4. TWO POSITION LOW LEAKAGE FAN OPEN CONTROL. DAMPER SHALL BE OPEN WHEN THE FAN IS OPERATING. DAMPER SHALL BE EXERCISED MINIMUM ONCE A WEEK.
5. TWO POSITION LOW LEAKAGE FAN CLOSED CONTROL. DAMPER TO OPEN WHEN FAN IS OPERATING.
6. CAP DUCT OR FAN OPENING WITH 1/2" X 1/2" GALV. WIRE MESH.
7. SET VOLUME DAMPER TO MINIMUM OUTSIDE AIR POSITION (SEE FAN RUL UNIT SCHEDULE).
8. UNIT IS OPERATE WHEN THE FIRE PUMP IS OPERATING. FAILURE OF FAN TO OPERATE (SEE DAMPER SCHEDULE) SHALL INSTANTLY ALARM EXHAUST. FAN SHALL BE EXERCISED MINIMUM ONCE A WEEK.
9. EXHAUST FAN IT-10 SHALL OPERATE UPON EITHER DETECTION OF HIGH REFRIGERANT CONCENTRATION IN THE ROOM OR DRILLER LEAK DETECTION ALARM. TWO POSITION LOW LEAKAGE FAN OPEN CONTROL. DAMPER SHALL BE OPEN WHEN UNIT IS OPERATING. CLOSED EXHAUST. DAMPER TO OPEN SHALL BE EXERCISED MINIMUM ONCE A WEEK. FAILURE OF THE DAMPER TO OPERATE PROPERLY SHALL INSTANTLY ALARM EXHAUST.
10. EXHAUST FAN IT-10 SHALL OPERATE DURING COOLING CYCLE. EXHAUST SHALL BE OFF WHEN IT-10 IS OPERATING. TWO POSITION LOW LEAKAGE FAN CLOSED CONTROL. DAMPER SHALL BE OPEN WHEN IT-10 IS OPERATING. CLOSED EXHAUST. DAMPER TO OPEN SHALL BE EXERCISED MINIMUM ONCE A WEEK. FAILURE OF THE DAMPER TO OPERATE PROPERLY SHALL INSTANTLY ALARM EXHAUST.
11. TWO POSITION CONTROL. DAMPER TO OPEN WHEN IT-10 IS OPERATING.
12. REFRIGERANT FAN IT-11 SHALL OPERATE ON CALL FOR COOLING.
13. SEE ARCHITECTURAL ELEVATIONS FOR ACTUAL LOCATIONS OF BOILER EXHAUSTION AIR INTAKE AND ROILER VENT.
14. PROVIDE VENT AND EXHAUSTION AIR DUCT IN ACCORDANCE WITH THE LISTING OF THE EQUIPMENT.
15. TWO POSITION LOW LEAKAGE FAN OPEN CONTROL. DAMPER TO OPEN WHEN FAN IS OPERATING. DAMPER SHALL BE EXERCISED MINIMUM ONCE A WEEK. FAILURE OF THE DAMPER TO OPERATE PROPERLY. BY DO EXHAUST. SHALL INSTANTLY ALARM EXHAUST.





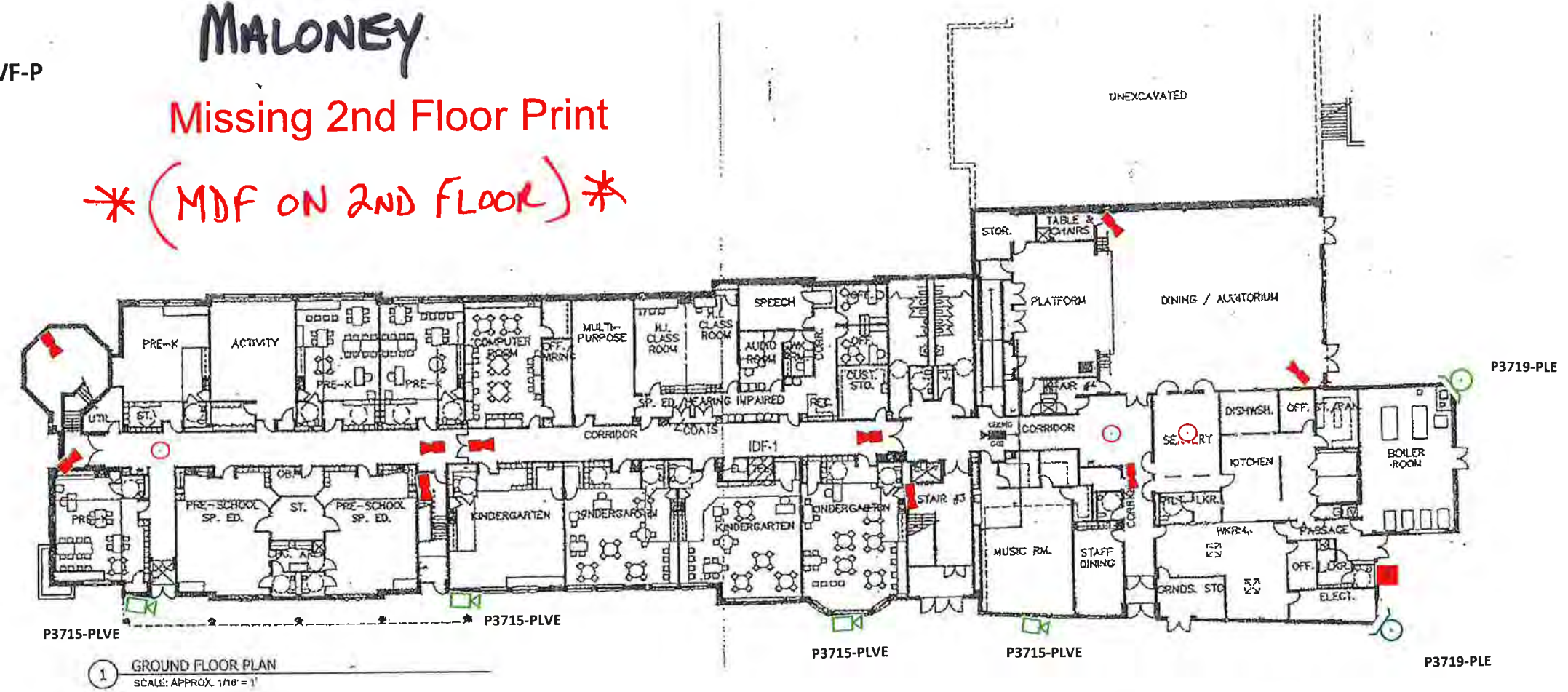
- JCD** Intercom door station: IX-DV
- JCD** Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
- ICM** Intercom master- IX-MV7-HB
- CR** Card reader-HID multi class RP40

**SM** Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse

**MALONEY**

Missing 2nd Floor Print

\* (MDF ON 2ND FLOOR) \*



\*\*\* All interior cameras marked with this symbol

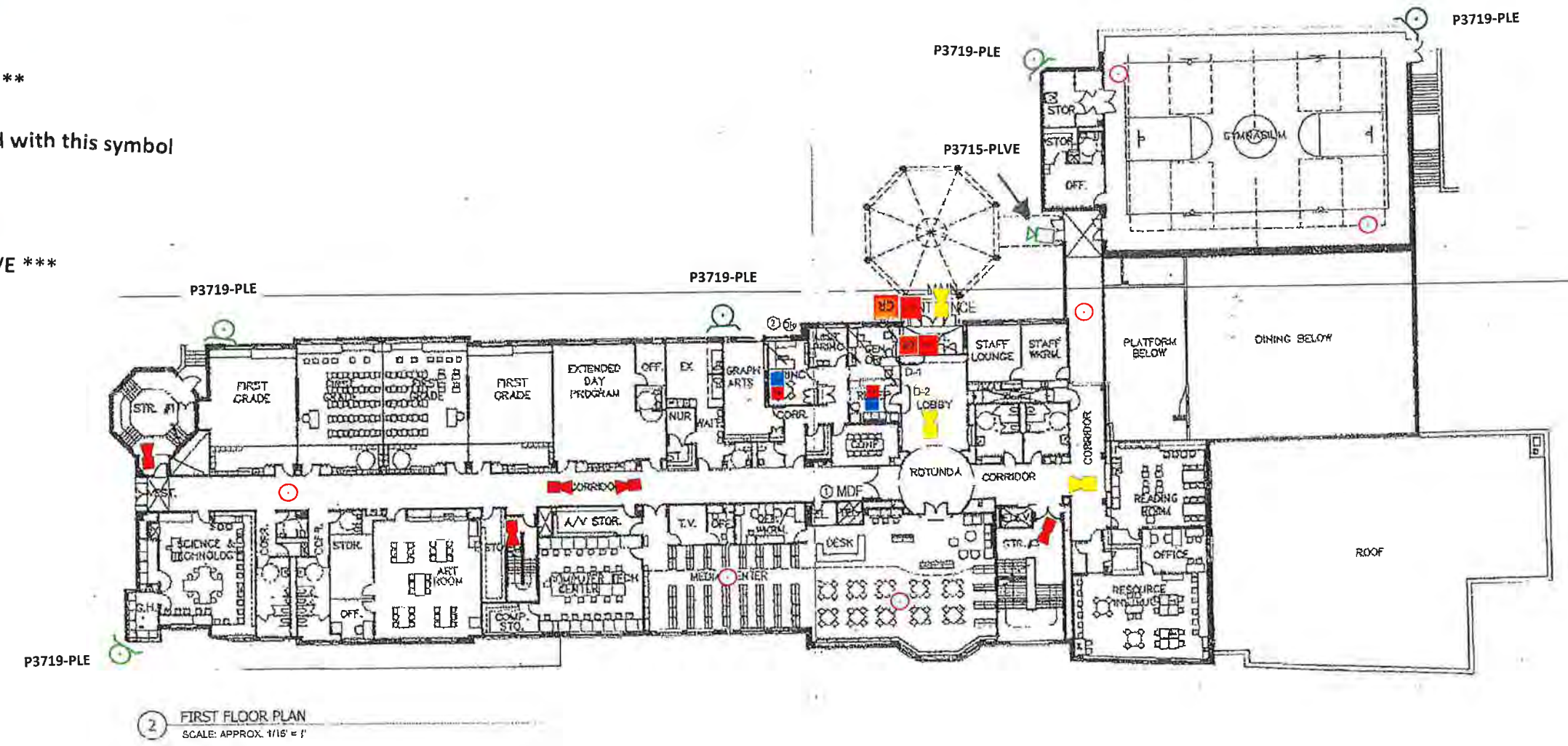


are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*





\*\*\* All interior cameras marked with this symbol



are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*



Intercom door station: IX-DV  
Intercom door station with reader: IX-DVF-P  
(requires back box SBX-IDVFRA)



Intercom master- IX-MV7-HB



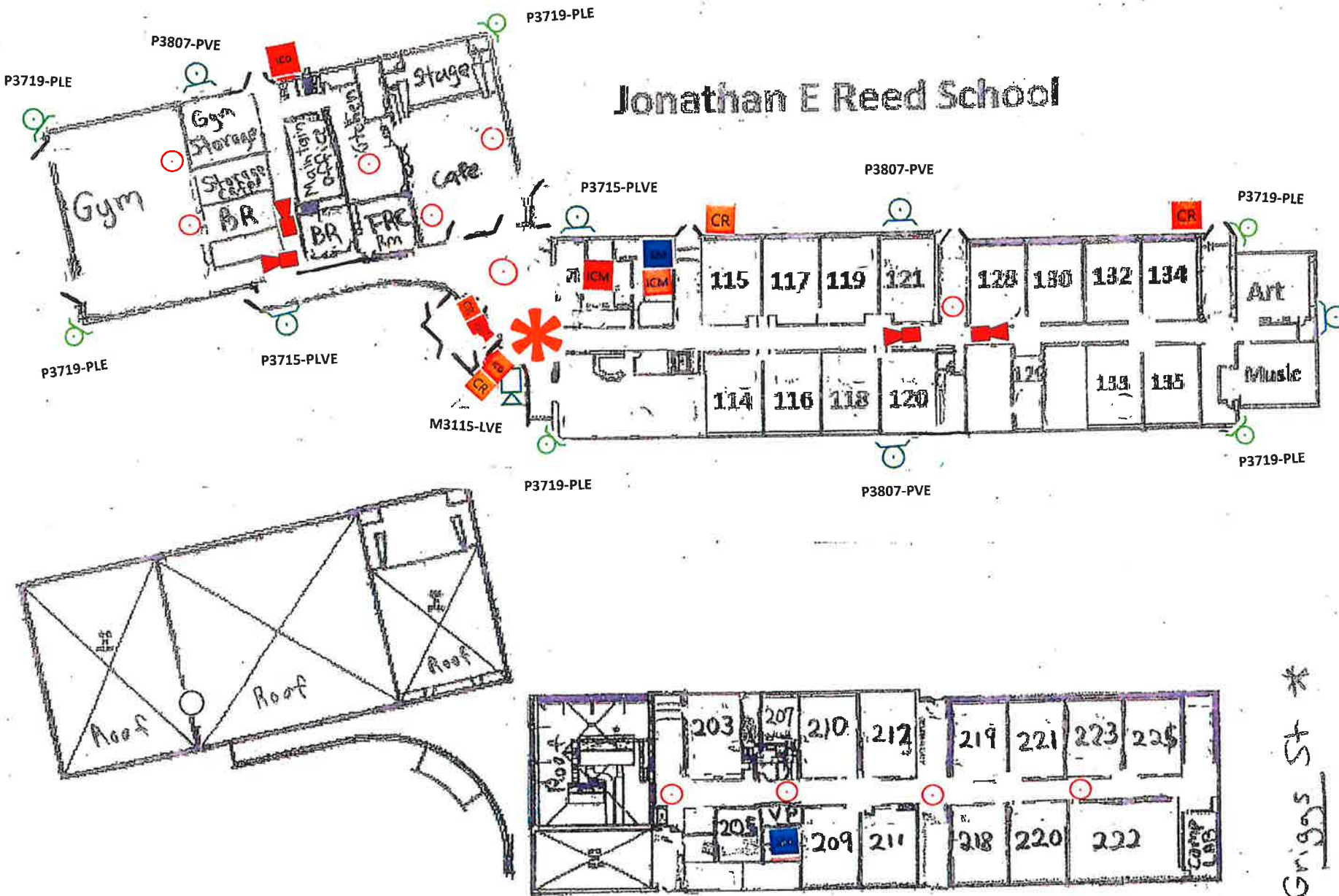
Card reader-HID multi class RP40



Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse



Finished height of outside A-Phone camera must be at 60"



P3719-PLVE  
AXIS T91D62 Telescopic  
Parapet Mount

# Jonathan E Reed School

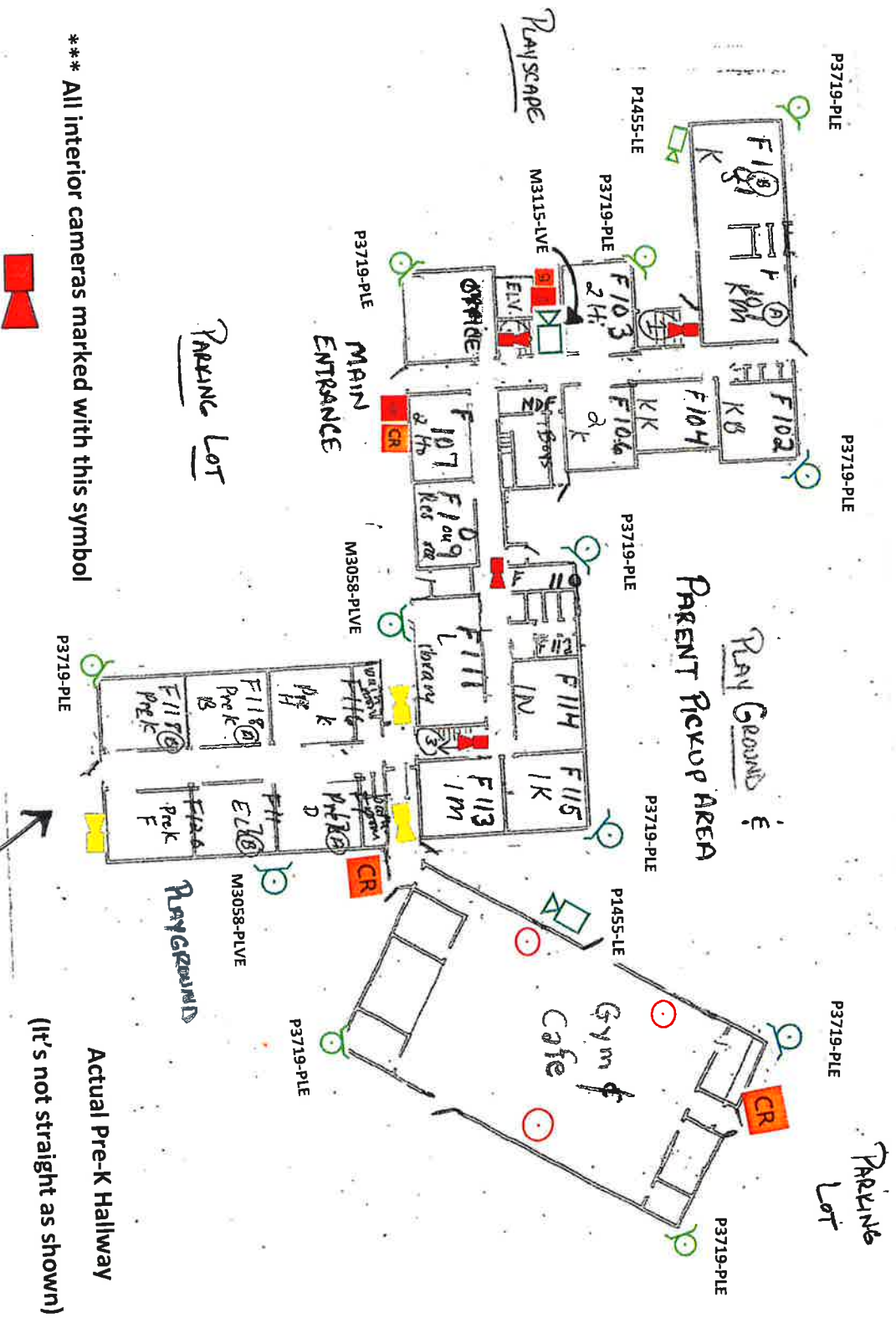
Second Floor

\*North Main St\*

\*Griggs St\*

- ICD** Intercom door station: IX-DV
- ICD** Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
- ICM** Intercom master- IX-MV7-HB
- CR** Card reader-HID multi class RP40

- SM** Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse



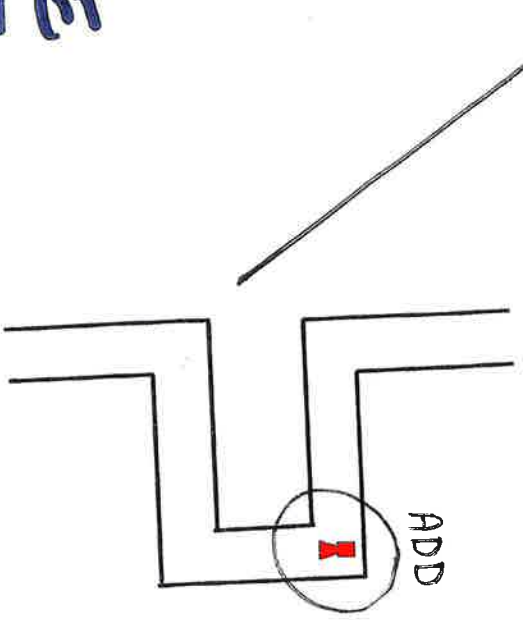
\*\*\* All interior cameras marked with this symbol

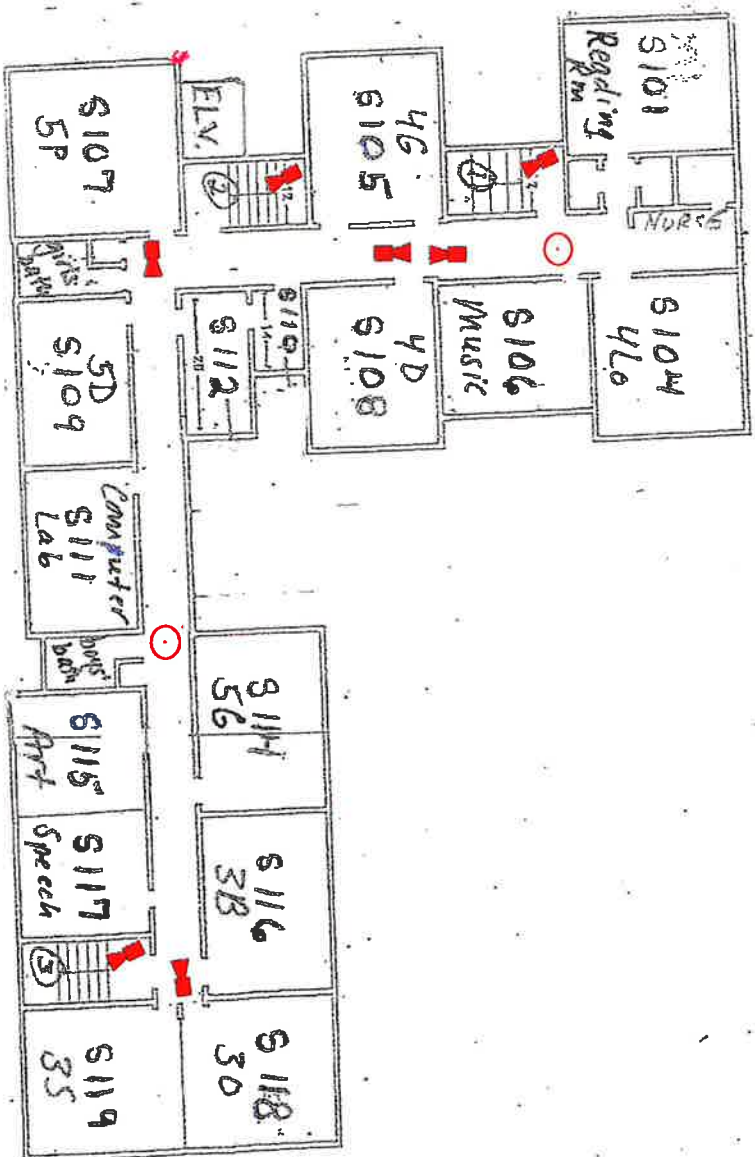
are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol

are to be M3058-PLVE \*\*\*

SPRAGUE

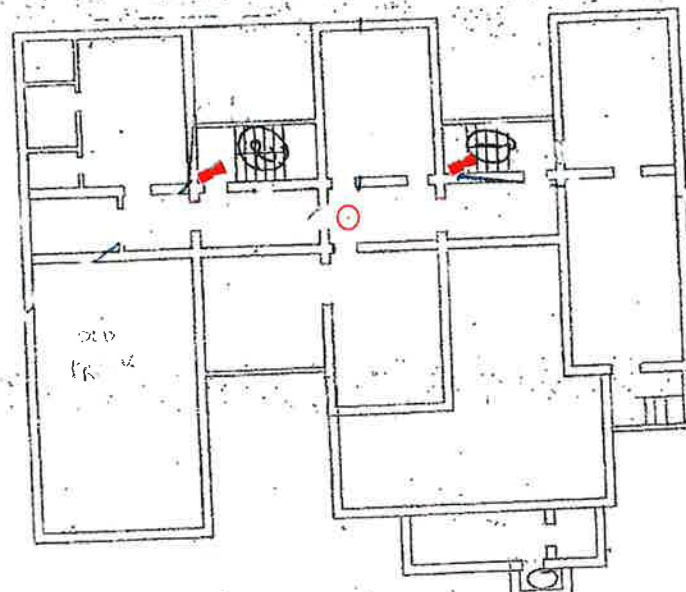




SPRAGUE SCHOOL  
SECOND FLOOR  
SCALE 1/32" = 1'  
DRAWN BY RUSSELL HARLOW

SPRAGUE



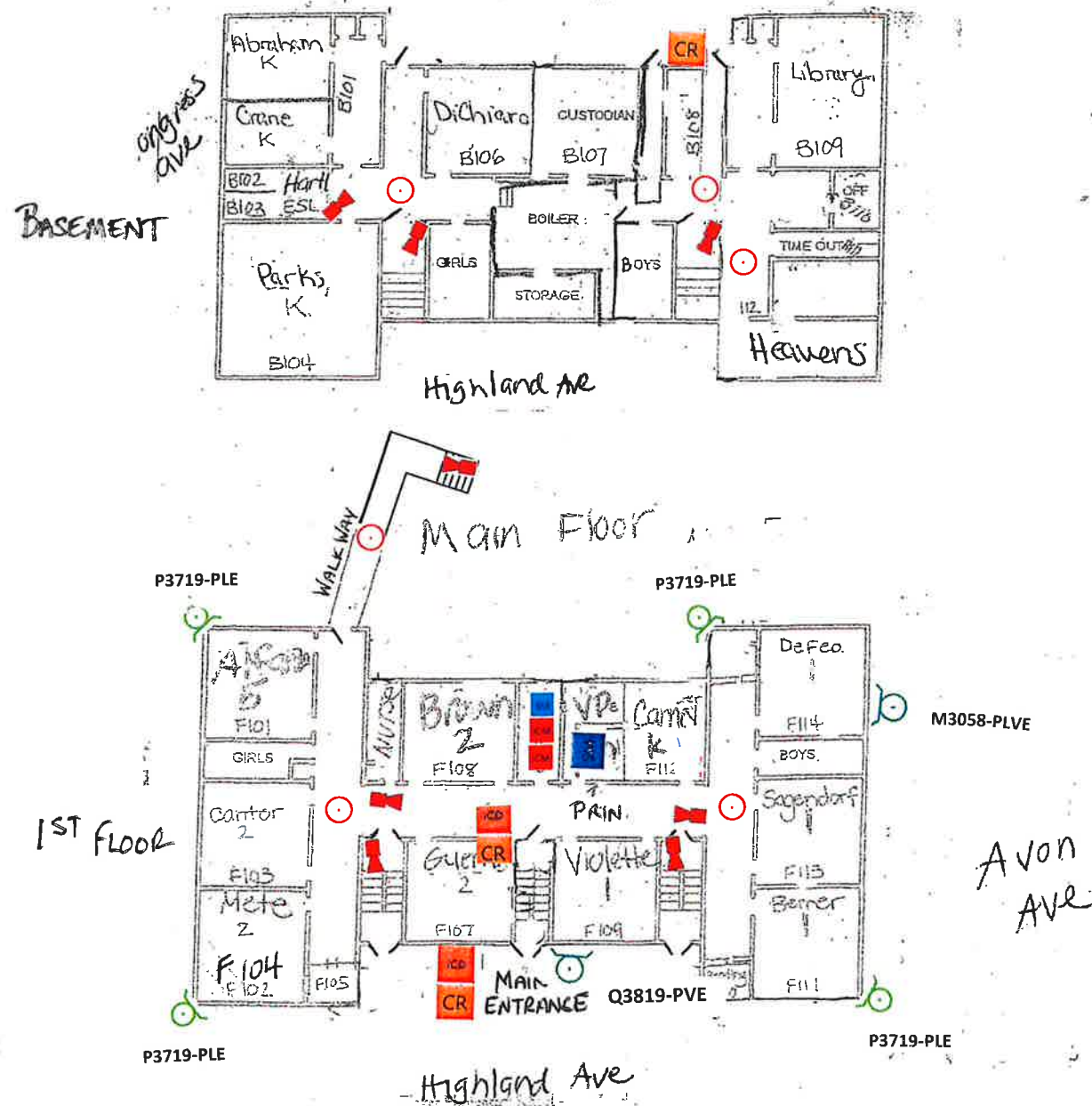


Basement

SPRAGUE SCHOOL  
BASEMENT  
SCALE 1/32" = 1'  
DRAWN BY RUSSELL HARLOW

SPRAGUE

# TINKER SCHOOL FLOOR PLAN



\*\*\* All interior cameras marked with this symbol








are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol

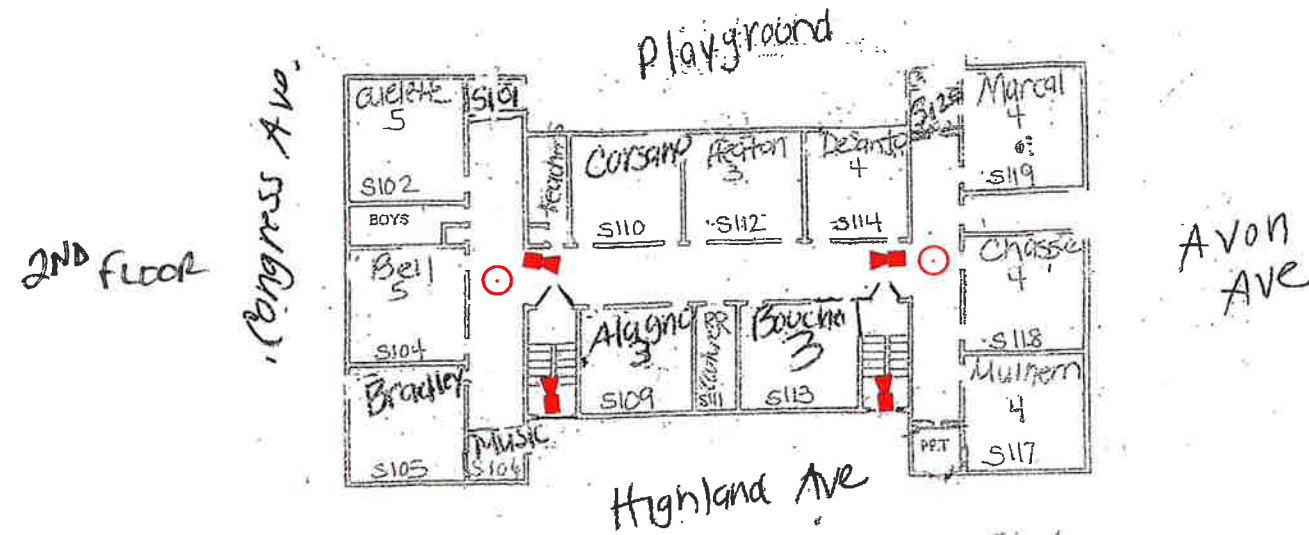


are to be M3058-PLVE \*\*\*

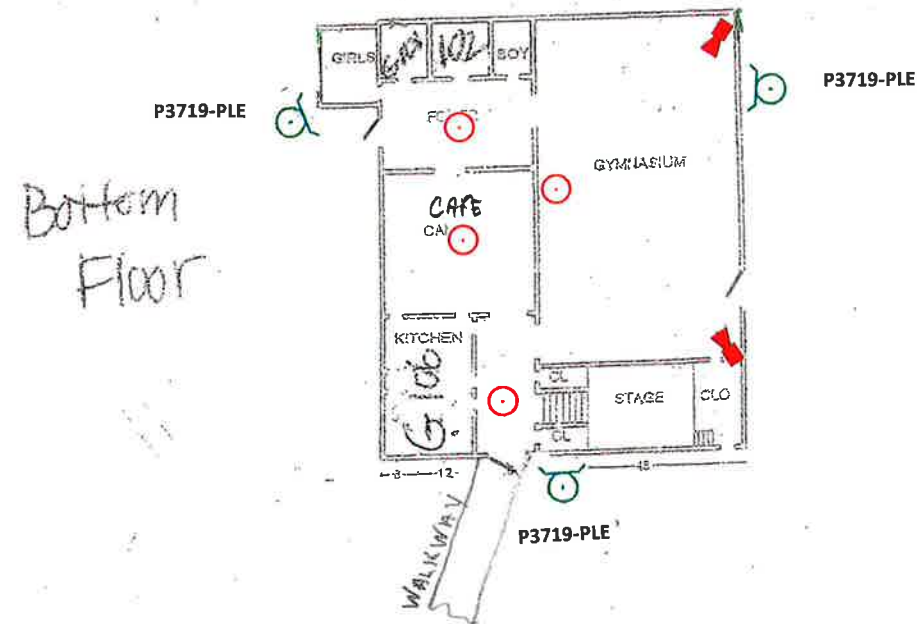
-  Intercom door station: IX-DV
-  Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
-  Intercom master- IX-MV7-HB
-  Card reader-HID multi class RP40

-  Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse

# TINKER



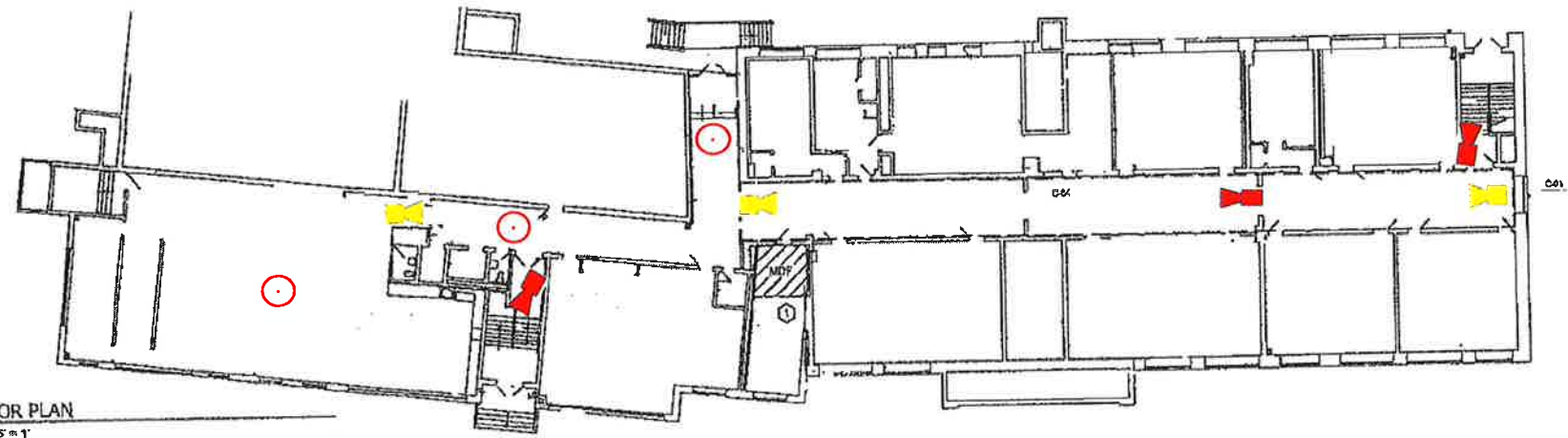
2nd Level Floor Plan





WALSH

1 BASEMENT FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



\*\*\* All interior cameras marked with this symbol



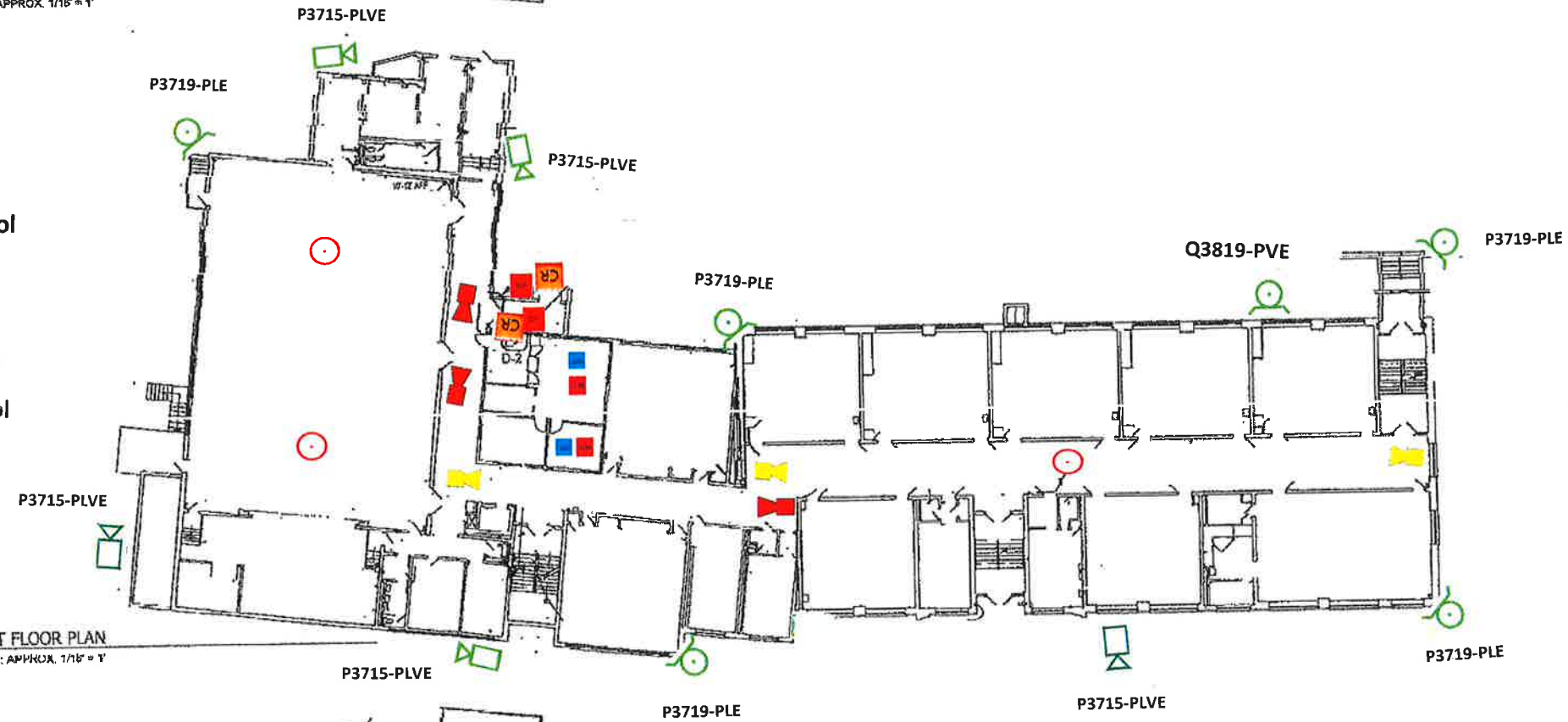
are to be M3066-V \*\*\*





\*\*\* All interior cameras marked with this symbol




are to be M3058-PLVE \*\*\*

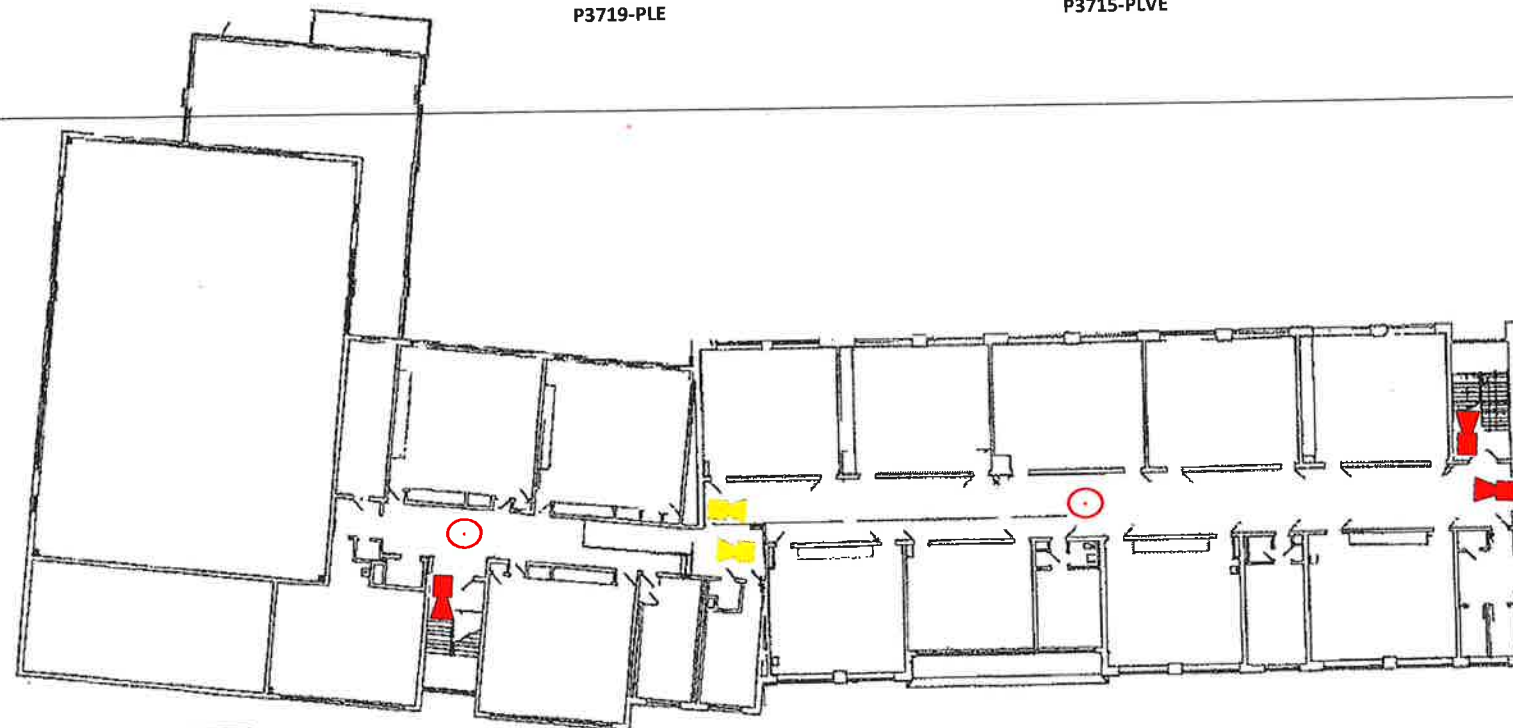
2 FIRST FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'



-  Intercom door station: IX-DV
-  Intercom door station with reader: IX-DVF-P (requires back box SBX-IDVFRA)
-  Intercom master- IX-MV7-HB
-  Card reader-HID multi class RP40

-  Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse

3 SECOND FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'







are to be M3058-PLVE \*\*\*



CM

CR

Spot Monitor: (2) 55" TV's with Wall Bracket,  
Micro PC, long range keyboard & Mouse



JUL 20 19 4 160422Z -3.025472 MGKS. (0) AM 04433 01/10 CDA Connected. Now there's a...



CellSource® Retrospective Graphic™ by Critical Response Group, Inc. (www.CRG.com)



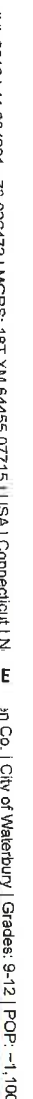
Version Control #  
**V1.0**

**First Level - Micro**  
**Wilby High School**  
 568 Bucks Hill Rd, Waterbury, CT 06704



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FRONT OF SCHOOL

P3719-PL

P3719-PL

P1455-LE

P3719-PL

\*\*\* All interior cameras marked with this symbol



are to be M3066-V \*\*\*

\*\*\* All interior cameras marked with this symbol



are to be M3058-PLVE \*\*\*

PARKING LOT




WILSON SCHOOL

FIRST FLOOR

NO SCALE JULY 1996

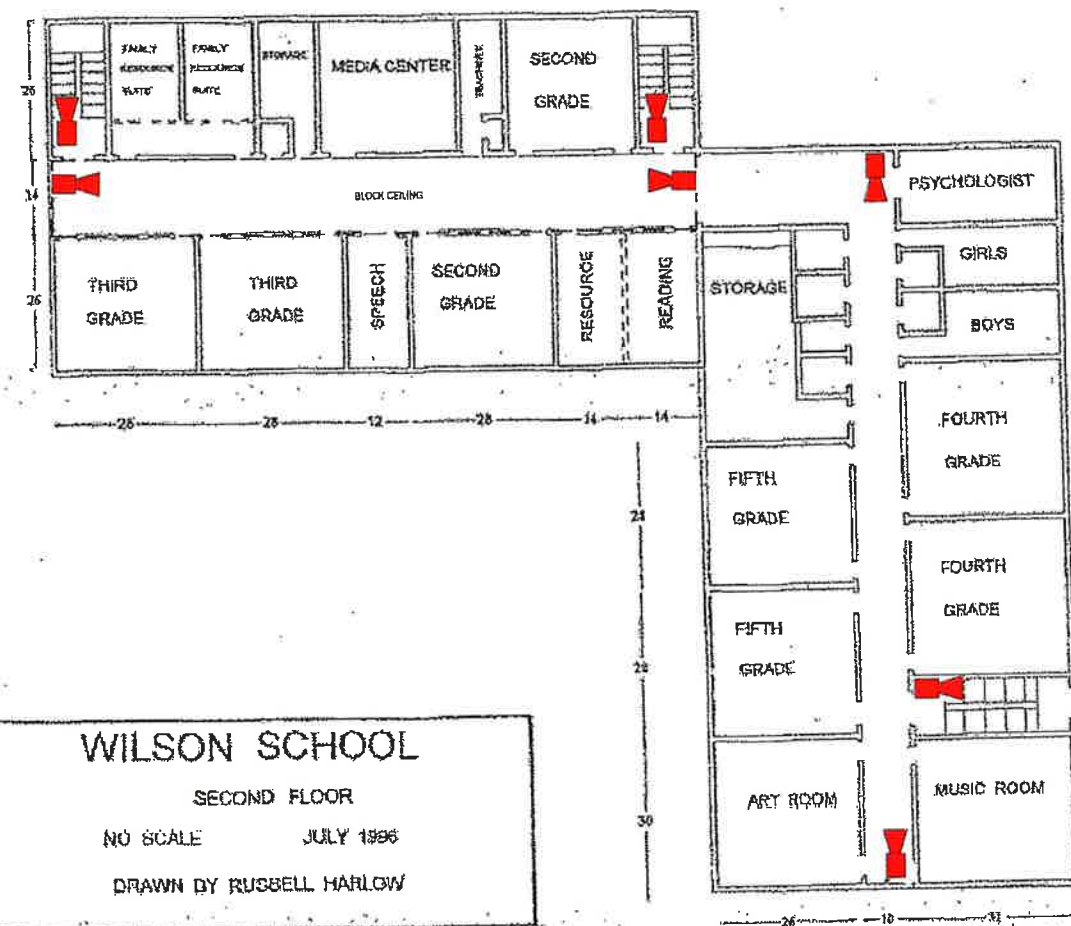
DN BY RUSSELL HARLOW

(1) FIRST FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

-  Intercom door station: IX-DV
-  Intercom master- IX-MV7-HB
-  Card reader-HID multi class RP40

PLAYGROUND

 Spot Monitor: (2) 55" TV's with Wall Bracket, Micro PC, long range keyboard & Mouse



(2) SECOND FLOOR PLAN  
SCALE: APPROX. 1/16" = 1'

Portables

P3719-PL

P1455-LE

P1455-LE

## EXISTING ANAOLG/DIGITAL CAMERAS PER SCHOOL

- **Adult Ed.** – Not on S2 or Milestone at this time.
- **Bucks Hill** – On S2 now - All digital cameras (19), replace Hikevision cameras (4)
- **Bunker Hill** – On S2 now - All digital cameras (8)
- **Crosby** – On S2 now (2 NVR's) – 32 analog (4 not working), need to spec out new 16 channel encoders, 42 digital (1 not working & 2 blurry)
- **Enlightenment** - Not our cameras, PAL owns the camera system now. This is a total new install.
- **Generali** – On S2 now - All digital cameras (6)
- **Gilmartin** – On S2 now – 12 digital (1 not working), 9 analog on Bosch system (replace all).
- **Maloney** – On S2 now – 8 digital (1 blurry), 8 analog – need to replace existing 2 4-channel encoders with 8-channel encoder (if available). The 2 encoders now always go offline.
- **Reed** – On S2 now (2 NVR's) – 2 digital (1 Hikevision to be replaced), 40 analog (11 not working & 1 blurry, 1 washed out). Need to spec out new 16 channel encoders.
- **Sprague** – On S2 now – 15 digital, 8 analog (both 4 channel encoders need replacing with new 8 channel encoder (if available), the 2 encoders now always go offline).
- **Tinker** - On S2 now – 6 digital (2 not working).

- **Walsh** - On S2 now – 14 digital (1 not working), 16 analog (6 not working), need to replace existing encoder with new 16 channel encoder.
- **Wilby** - On S2 now (2 NVR's) but also on a Bosch system too, 20 digital (1 blurry), 16 analog (all working but 1 blurry).
- **Wilson** - On S2 now, 7 digital

### **Axis Encoders:**

16 Channel - M7216 Network Video Encoder

4 Channel - M7104 Network Video Encoder

1 channel - M7011 Network Video Encoder

| Intercoms                              |  |   |
|--|--|---|
| Intercom Master Station                | Aiphone                                    | IX-MV7-HB                               |
| Intercom Door Station                  | Aiphone                                    | IX-DV                                   |
| Intercom Door Station Mullian Back Box | Aiphone                                    | IX-MB                                   |
| Intercom Relay                         | Aiphone                                    | IXW-MA                                  |
| Cameras & Camera Accessories           |  |   |
| Exterior 360                           | Axis                                       | P3715-PLVE                              |
| Exterior 360 Pendant Mount             | Axis                                       | T94N01D                                 |
| Exterior 360 Wall Mount                | Axis                                       | T91E61                                  |
| Exterior 360 Corner Bracket            | Axis                                       | T94R01B                                 |
| Exterior 180                           | Axis                                       | P3808-LVE                               |
| Exterior Fixed                         | Axis                                       | M2025LE                                 |
| Exterior High Resolution Fixed         | Axis                                       | P1447-LE                                |
| Interior Fixed                         | Axis                                       | M3066V                                  |
| Interior 360                           | Axis                                       | M3058-PLVE                              |
| Wireless Camera Bridge                 | Comnet                                     | NWK11/M                                 |
| Wireless Camera Bridge Power Supply    | Comnet                                     | PIM                                     |
| Spot Monitor                           |  |   |
| 55" Monitor                            | Samsung                                    | QB55R                                   |
| TV Wall Mount Bracket                  | Any compatible model                       |   |
| Micro PC                               | Per Milestone Spec for Xprotect Client     |   |
| Micro PC Bracket                       | Any compatible model                       |   |
| Keyboard/Mouse                         | Any compatible model                       |   |
| HDMI Cable                             | Any compatible model                       |   |
| Head End                               |  |   |
| UPS                                    | APC  | SMX2000LV                               |
| Server                                 | Assurance 300 Series v6 or Certainty 400v6 | Per Milestone Spec for Recording Server |
| Camera License                         | Milestone Professional +                   | 8Y-XPUSDL30                             |
| Camera 3 Year Care                     | Milestone Professional +                   | 8Y-Y3XPUSD30                            |
| Access Control                         |  |   |
| S2 main controlled                     | S2   | S2-EXT-32-WM                            |
| S2 node - one blade                    | S2   | S2-NN-E2R-WM                            |
| Two door blade                         | S2   | S2-ACM                                  |
| Micro Node                             | S2   | S2-MNP                                  |
| Strike Power supply                    | Altronix                                   | AL600ULX                                |
| Card Reader                            | HID  | RP40                                    |
| REX                                    | Bosch                                      | DS160                                   |
| Electric Strike (Or Comparable)        | HES  | 9600                                    |
| Server Specs                           |  |   |
| School                                 | Server                                     | Qty                                     |
| Adult Education                        | ASC12-64T-4L-8-W                           | 1                                       |
| Bucks Hill                             | CTY12-128T-4L-16                           | 1                                       |
| Wilson                                 | ASC12-84T-4L-12-P                          | 1                                       |
| Walsh                                  | CTY-12-112T-4L-16                          | 1                                       |
| Bunker Hill                            | CTY12-96T-4L-12                            | 1                                       |
| Maloney                                | CTY12-96T-4L-12                            | 1                                       |
| Sprague                                | CTY12-112T-4L-16                           | 2                                       |
| Tinker                                 | ASC12-56T-4L-8-P                           | 2                                       |
| Gilmartin                              | ASC12-84T-4L-12-P                          | 2                                       |
| Enlightenment                          | CTY12-84T-4L-12                            | 1                                       |
| Wilby                                  | ASC12-96T-4L-12-P                          | 1                                       |
| Crosby                                 | ASC12-96T-4L-12-P                          | 2                                       |
| Generali                               | ASC12-96T-4L-12-P                          | 2                                       |
| Reed                                   | ASC12-96T-4L-12-P                          | 1                                       |
| WAMS                                   | ASC12-96T-4L-12-P                          | 1                                       |

\*\*\* 100% recording at Max Camera Resolution 15 FPS

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COMMUNICATION HORIZONTAL CABLING

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## PART 1 - GENERAL

## 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Drawings
  - 1. "Y" Drawings – Technology Plans
- C. Related Sections:
  - 1. Division 282300 Section "Video Surveillance System"
  - 2. Division 280528 Section "Pathways for Security Systems".

## 1.02 SUMMARY

- A. Section Includes:
  - 1. Pathways.
  - 2. UTP cabling.
  - 3. Cable connecting hardware, patch panels, and cross-connects.
  - 4. Telecommunications outlet/connectors.
  - 5. Cabling system identification products.
  - 6. Cable management system.

## 1.03 DEFINITIONS

- A. BICSI: Building Industry Consulting Service International.
- B. Channel Cable Tray: A fabricated structure consisting of a one-piece, ventilated-bottom or solid-bottom channel.
- C. Consolidation Point: A location for interconnection between horizontal cables extending from building pathways and horizontal cables extending into furniture pathways.



- D. Cross-Connect: A facility enabling the termination of cable elements and their interconnection or cross-connection.
- E. EMI: Electromagnetic interference.
- F. IDC: Insulation displacement connector.
- G. Ladder Rack / Cable Tray: A fabricated structure consisting of two longitudinal side rails connected by individual transverse members (rungs).
- H. LAN: Local area network.
- I. Outlet/Connectors: A connecting device in the work area on which horizontal cable or outlet cable terminates.
- J. RCDD: Registered Communications Distribution Designer.
- K. Solid-Bottom or Nonventilated Cable Tray: A fabricated structure consisting of longitudinal side rails and a bottom without ventilation openings.
- L. Trough or Ventilated Cable Tray: A fabricated structure consisting of longitudinal side rails and a bottom having openings for the passage of air.
- M. UTP: Unshielded twisted pair.

#### 1.04 HORIZONTAL CABLING DESCRIPTION

- A. Horizontal cable and its connecting hardware provide the means of transporting signals between the telecommunications outlet/connector and the horizontal cross-connect located in the communications equipment room. This cabling and its connecting hardware are called "permanent link," a term that is used in the testing protocols.
  - 1. TIA/EIA-568-B.1 requires that a minimum of two telecommunications outlet/connectors be installed for each work area, unless otherwise specified within the drawing documents.
  - 2. Horizontal cabling shall contain no transition points or consolidation points between the horizontal cross-connect and the telecommunications outlet/connector.
  - 3. Bridged taps and splices shall not be installed in the horizontal cabling.
  - 4. Splitters shall not be installed as part of the horizontal cabling.
- B. The maximum allowable horizontal cable length is 295 feet. This maximum allowable length does not include an allowance for the length of 16 feet to the workstation equipment. The maximum allowable length does not include an allowance for the length of 16 feet in the horizontal cross-connect.

- C. If the installation contractor believes that any cabling will exceed the 295 feet, they are to make the technology consultant aware of this prior to installing the cable so that a remedy can be put in place. All cabling that is installed and exceeds the 295 feet, may be subject to be removed at the installation contractors' expense to attain a length less than 295 feet.
- D. All cable that is installed within conduit or pathways that are located in exterior spaces of the facility shall be indoor/outdoor rated cable. This shall include but not be limited to conduit below concrete slab, conduit on the exterior of the building and any conduit or pathway that is susceptible to moisture and excessive temperatures that are deemed by the manufacturer as damaging to the cable and that will void all warranties.

#### 1.05 PERFORMANCE REQUIREMENTS

- A. General Performance: Horizontal cabling system shall comply with transmission standards in TIA/EIA-568-C.2, when tested according to test procedures of this standard.

#### 1.06 SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. For coaxial cable, include the following installation data for each type used:
    - a. Nominal OD.
    - b. Minimum bending radius.
    - c. Maximum pulling tension.
- B. Shop Drawings:
  - 1. System Labeling Schedules: Electronic copy of labeling schedules, in software and format selected by Owner.
  - 2. System Labeling Schedules: Electronic copy of labeling schedules that are part of the cabling and asset identification system of the software.
  - 3. Cabling administration drawings and printouts.
  - 4. Wiring diagrams to show typical wiring schematics, including the following:
    - a. Cross-connects.
    - b. Patch panels.
    - c. Patch cords.

5. Cross-connects and patch panels. Detail mounting assemblies, and show elevations and physical relationship between the installed components.
6. Cable tray layout, showing cable tray route to scale, with relationship between the tray and adjacent structural, electrical, and mechanical elements. Include the following:
  - a. Vertical and horizontal offsets and transitions.
  - b. Clearances for access above and to side of cable trays.
  - c. Vertical elevation of cable trays above the floor or bottom of ceiling structure.
  - d. Load calculations to show dead and live loads as not exceeding manufacturer's rating for tray and its support elements.
- C. Qualification Data: For Installer, qualified layout technician, installation supervisor, and field inspector.
- D. Source quality-control reports.
- E. Field quality-control reports.
- F. Maintenance Data: For splices and connectors to include in maintenance manuals.
- G. Software and Firmware Operational Documentation:
  1. Software operating and upgrade manuals.
  2. Program Software Backup: On magnetic media or compact disk, complete with data files.
  3. Device address list.

#### 1.07 QUALITY ASSURANCE

- A. Installer Qualifications: Cabling Installer must have personnel certified by BICSI on staff.
  1. Layout Responsibility: Preparation of Shop Drawings and Cabling Administration Drawings by an RCDD.
  2. Installation Supervision: Installation shall be under the direct supervision of Level 2 Installer, who shall be present at all times when Work of this Section is performed at Project site.
  3. Testing Supervisor: Currently certified by BICSI as an RCDD to supervise on-site testing.
- B. Testing Agency Qualifications: An NRTL.

1. Testing Agency's Field Supervisor: Currently certified by BICSI as an RCDD to supervise on-site testing.
  - C. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    1. Flame-Spread Index: 25 or less.
    2. Smoke-Developed Index: 50 or less.
  - D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - E. Telecommunications Pathways and Spaces: Comply with TIA/EIA-569-C.
  - F. Grounding: Comply with ANSI-J-STD-607-A.
- 1.08 DELIVERY, STORAGE, AND HANDLING
- A. Test cables upon receipt at Project site.
    1. Test each pair of UTP cable for open and short circuits.
- 1.09 PROJECT CONDITIONS
- A. Environmental Limitations: Do not deliver or install cables and connecting materials until wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- 1.10 COORDINATION
- A. Coordinate layout and installation of telecommunications pathways and cabling with Owner's telecommunications and LAN equipment and service suppliers.
  - B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

## PART 2 - PRODUCTS

### 2.01 PATHWAYS

- A. General Requirements: Comply with TIA/EIA-569-C.

- B. Cable Support: NRTL labeled for support of Category 6A cabling, designed to prevent degradation of cable performance and pinch points that could damage cable.

1. Support brackets with cable tie slots for fastening cable ties to brackets.
2. Lacing bars, spools, J-hooks, and D-rings.
3. Straps and other devices.

- C. Ladder Rack / Cable Tray:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include and are limited to the following:
  - a. Great Lakes
  - b. Cooper B-Line, Inc.
  - c. Chatsworth Products
  - d. Snake Tray
2. Ladder Rack Materials: Metal, suitable for indoors, and protected against corrosion by electroplated zinc galvanizing, complying with ASTM B 633, Type 1, not less than 0.000472 inch thick.
  - a. Ladder Rack Trays: Nominally 12 inches wide, and a rung spacing of 12 inches.
  - b. Must be supported every 10' minimally.

- D. Conduit and Boxes: Comply with requirements in Division 26 Section "Raceway and Boxes for Electrical Systems."

1. Outlet boxes shall be no smaller than 2 inches wide, 3 inches high, and 2-1/2 inches deep.

## 2.02 UTP CABLE

- A. All cable that is installed within conduit or pathways that are located in exterior spaces of the facility shall be indoor/outdoor rated cable. This shall include but not be limited to conduit below concrete slab, conduit on the exterior of the building and any conduit or pathway that is susceptible to moisture and excessive temperatures that are deemed by the manufacturer as damaging to the cable and that will void all warranties.



- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include and are limited to the following:
  - 1. Berk-Tek
  - 2. Superior Essex
  - 3. Belden
- C. Description: 100-ohm, 4-pair UTP, formed into 4-pair, binder groups covered with a blue plenum rated jacket.
  - 1. Comply with ICEA S-90-661 for mechanical properties.
  - 2. Comply with TIA/EIA-568-C.2 for performance specifications.
  - 3. Comply with TIA/EIA-568-C.2, Category 6A.

## 2.03 UTP CABLE HARDWARE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include and are limited to the following:
  - 1. Leviton
  - 2. Hubbell Premise Wiring
  - 3. Belen
- B. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-C.2, IDC type, with modules designed for punch-down caps or tools. Cables shall be terminated with connecting hardware of same category or higher.
- C. Connecting Blocks: 110-style IDC for Category 5E. Provide blocks for the number of cables terminated on the block, plus 25 percent spare. Integral with connector bodies, including plugs and jacks where indicated.
- D. Cross-Connect: Modular array of connecting blocks arranged to terminate building cables and permit interconnection between cables.
  - 1. Number of Terminals per Field: One for each conductor in assigned cables.
- E. Patch Panel: Modular panels housing multiple-numbered jack units with IDC-type connectors at each jack for permanent termination of pair groups of installed cables.
  - 1. Number of Jacks per Field: One for each four-pair UTP cable indicated, plus spares and blank positions adequate to suit specified expansion criteria.

- F. Jacks and Jack Assemblies: Modular, color-coded, eight-position modular receptacle units with integral IDC-type terminals.

#### 2.04 TELECOMMUNICATIONS OUTLET/CONNECTORS

- A. Jacks: 100-ohm, balanced, twisted-pair connector; four-pair, eight-position modular. Comply with TIA/EIA-568-B.1, Category 6A.
- B. Workstation Outlets: Multi-port-connector assemblies mounted in single-gang faceplate.
  - 1. Plastic Faceplate: As specified within the drawing documentation.
  - 2. For use with snap-in jacks accommodating any combination of UTP work area cords.
  - 3. Flush mounting jacks, positioning the cord at a 45-degree angle.
  - 4. Legend: Machine printed, in the field, using adhesive-tape label.
  - 5. Legend: Snap-in, clear-label covers and machine-printed paper inserts.

#### 2.05 GROUNDING

- A. Comply with requirements in Division 26 Section "Grounding and Bonding for Electrical Systems" for grounding conductors and connectors.
- B. Comply with ANSI-J-STD-607-A.

#### 2.06 IDENTIFICATION PRODUCTS

- A. Comply with TIA/EIA-606-B and UL 969 for labeling materials, including label stocks, laminating adhesives, and inks used by label printers.
- B. Comply with requirements in Division 26 Section "Identification for Electrical Systems."
- C. Labeling for all cabling and termination equipment is described within the drawing package.

#### 2.07 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate cables.
- B. Factory test UTP and optical fiber cables on reels according to TIA/EIA-568-C.3.
- C. Factory test UTP cables according to TIA/EIA-568-C.2.
- D. Cable will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

## PART 3 - EXECUTION

### 3.01 WIRING METHODS

- A. Wiring Method: Install cables in raceways and cable trays except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces, and in gypsum board partitions where unenclosed wiring method may be used. Conceal raceway and cables except in unfinished spaces.
  - 1. Install plenum cable in environmental air spaces, including plenum ceilings.
  - 2. All cable that is installed within conduit or pathways that are located in exterior spaces of the facility shall be indoor/outdoor rated cable. This shall include but not be limited to conduit below concrete slab, conduit on the exterior of the building and any conduit or pathway that is susceptible to moisture and excessive temperatures that are deemed by the manufacturer as damaging to the cable and that will void all warranties.
  - 3. Comply with requirements for raceways and boxes specified in Division 26 Section "Raceway and Boxes for Electrical Systems."
- B. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.
- C. Wiring within Enclosures: Bundle, lace, and train cables to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

### 3.02 INSTALLATION OF PATHWAYS

- A. Cable Trays: Comply with NEMA VE 2 and TIA/EIA-569-A-7.
- B. Comply with requirements for demarcation point, pathways, cabinets, and racks specified in Division 27 Section "Communications Equipment Room Fittings." Drawings indicate general arrangement of pathways and fittings.
- C. Comply with TIA/EIA-569-C for pull-box sizing and length of conduit and number of bends between pull points.
- D. Comply with requirements in Division 26 Section "Raceway and Boxes for Electrical Systems" for installation of conduits and wireways.
- E. Install manufactured conduit sweeps and long-radius elbows whenever possible.
- F. Pathway Installation in Communications Equipment Rooms:

1. Position conduit ends adjacent to a corner on backboard where a single piece of plywood is installed, or in the corner of room where multiple sheets of plywood are installed around perimeter walls of room.
2. Install cable trays to route cables if conduits cannot be located in these positions.
3. Secure conduits to backboard when entering room from overhead.
4. Extend conduits 3 inches above finished floor.
5. Install metal conduits with grounding bushings and connect with grounding conductor to grounding system.

### 3.03 INSTALLATION OF CABLES

A. Comply with NECA 1.

B. General Requirements for Cabling:

1. Comply with TIA/EIA-568-C.2.
2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
3. Install 110-style IDC termination hardware unless otherwise indicated.
4. MUTOA shall not be used as a cross-connect point.
5. Consolidation points may be used only for making a direct connection to telecommunications outlet/connectors:
  - a. Do not use consolidation point as a cross-connect point, as a patch connection, or for direct connection to workstation equipment.
  - b. Locate consolidation points for UTP at least 49 feet from communications equipment room.
6. Terminate conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, cross-connects, and patch panels.
7. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
8. Install lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.

9. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM, "Cabling Termination Practices" Chapter. Install lacing bars and distribution spools.
  10. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
  11. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
  12. In the communications equipment room, install a 10-foot- long service loop on each end of cable.
  13. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions.
- C. UTP Cable Installation:
1. Comply with TIA/EIA-568-C.2.
  2. Do not untwist UTP cables more than 1/2 inch from the point of termination to maintain cable geometry.
- D. Open-Cable Installation:
1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
  2. Suspend UTP cable not in a wireway or pathway a minimum of 8 inches above ceilings by cable supports not more than 60 inches apart.
  3. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.
- E. Separation from EMI Sources:
1. Comply with BICSI TDMM and TIA/EIA-569-C for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.
  2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment shall be as follows:
    - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches.
    - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches.



- c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches.
- 3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment shall be as follows:
  - a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches.
  - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches.
  - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches.
- 4. Separation between communications cables in grounded metallic raceways and power lines and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:
  - a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
  - b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches.
  - c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches.
- 5. Separation between Communications Cables and Electrical Motors and Transformers, 5 kVA or HP and Larger: A minimum of 48 inches.
- 6. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inches.

#### 3.04 FIRESTOPPING

- A. Comply with requirements in Division 07 Section "Penetration Firestopping."
- B. Comply with TIA/EIA-569-C.
- C. Comply with BICSI TDMM, "Firestopping Systems" Article.

#### 3.05 IDENTIFICATION

- A. All labeling of workstation outlets and patch panels shall be described by the Owner prior to testing and labeling of these devices.
- B. Identify system components, wiring, and cabling complying with TIA/EIA-606-B. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."
  - 1. Administration Class: 2.

2. Color-code cross-connect fields. Apply colors to voice and data service backboards, connections, covers, and labels.
- C. Using cable management system software specified in Part 2, develop Cabling Administration Drawings for system identification, testing, and management. Use unique, alphanumeric designation for each cable and label cable, jacks, connectors, and terminals to which it connects with same designation. At completion, cable and asset management software shall reflect as-built conditions.
  - D. Comply with requirements in Division 09 Section "Interior Painting" for painting backboards. For fire-resistant plywood, do not paint over manufacturer's label.
  - E. Paint and label colors for equipment identification shall comply with TIA/EIA-606-B for Class 2 level of administration, including optional identification requirements of this standard.
  - F. Cable Schedule: Post in prominent location in each equipment room and wiring closet. List incoming and outgoing cables and their designations, origins, and destinations. Protect with rigid frame and clear plastic cover. Furnish an electronic copy of final comprehensive schedules for Project.
  - G. Cabling Administration Drawings: Show building floor plans with cabling administration-point labeling. Identify labeling convention and show labels for telecommunications closets, backbone pathways and cables, entrance pathways and cables, terminal hardware and positions, horizontal cables, work areas and workstation terminal positions, grounding buses and pathways, and equipment grounding conductors. Follow convention of TIA/EIA-606-B. Furnish electronic record of all drawings, in software and format selected by Owner.
  - H. Cable and Wire Identification:
    1. Label each cable within 4 inches of each termination and tap, where it is accessible in a cabinet or junction or outlet box, and elsewhere as indicated.
    2. Each wire connected to building-mounted devices is not required to be numbered at device if color of wire is consistent with associated wire connected and numbered within panel or cabinet.
    3. Exposed Cables and Cables in Cable Trays and Wire Troughs: Label each cable at intervals not exceeding 15 feet.
    4. Label each terminal strip and screw terminal in each cabinet, rack, or panel.
      - a. Individually number wiring conductors connected to terminal strips, and identify each cable or wiring group being extended from a panel or cabinet to a building-mounted device shall be identified with name and number of particular device as shown.

- b. Label each unit and field within distribution racks and frames.
  - 5. Identification within Connector Fields in Equipment Rooms and Wiring Closets: Label each connector and each discrete unit of cable-terminating and connecting hardware. Where similar jacks and plugs are used for both voice and data communication cabling, use a different color for jacks and plugs of each service.
  - 6. Labeling is described within drawing package.
  - I. Labels shall be preprinted or computer-printed type with printing area and font color that contrasts with cable jacket color but still complies with requirements in TIA/EIA-606-A.
    - 1. Cables use flexible vinyl or polyester that flex as cables are bent.
- 3.06 FIELD QUALITY CONTROL
- A. Perform tests and inspections.
  - B. Tests and Inspections:
    - 1. Visually inspect UTP and optical fiber cable jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments, and inspect cabling connections for compliance with TIA/EIA-568-C.2.
    - 2. Visually confirm Category 6A, marking of outlets, cover plates, outlet/connectors, and patch panels.
    - 3. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
    - 4. Test UTP backbone copper cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross-connection.
      - a. Test instruments shall meet or exceed applicable requirements in TIA/EIA-568-C.2 for Category 6A systems. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
  - 5. UTP Performance Tests:

- a. Test for each workstation outlet. Perform the following tests according to TIA -568-C.2 and TIA/EIA-568-C.3, Category 6A standards:
  - 1) Wire map.
  - 2) Length (physical vs. electrical, and length requirements).
  - 3) Insertion loss.
  - 4) Near-end crosstalk (NEXT) loss.
  - 5) Power sum near-end crosstalk (PSNEXT) loss.
  - 6) Equal-level far-end crosstalk (ELFEXT).
  - 7) Power sum equal-level far-end crosstalk (PSELFEXT).
  - 8) Return loss.
  - 9) Propagation delay.
  - 10) Delay skew.
6. Final Verification Tests: Perform verification tests for UTP systems after the complete communications cabling and workstation outlet/connectors are installed.
  - a. Voice Tests: These tests assume that dial tone service has been installed. Connect to the network interface device at the demarcation point. Go off-hook and listen and receive a dial tone. If a test number is available, make and receive a local, long distance, and digital subscription line telephone call.
  - b. Data Tests: These tests assume the Information Technology Staff has a network installed and is available to assist with testing. Connect to the network interface device at the demarcation point. Log onto the network to ensure proper connection to the network.
- C. Document data for each measurement. Data for submittals shall be printed in a summary report that is formatted similar to Table 10.1 in BICSI TDMM, or transferred from the instrument to the computer, saved as text files, and printed and submitted.
- D. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.07 DEMONSTRATION

- A. Train Owner's maintenance personnel in cable-plant management operations, including changing signal pathways for different workstations, rerouting signals in failed cables, and keeping records of cabling assignments and revisions when extending wiring to establish new workstation outlets.

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END OF SECTION 27 15 00



## SECTION 080671 – DOOR HARDWARE SETS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section references specification sections relating to commercial door hardware for the following:
  - 1. Swinging doors.
  - 2. Sliding Doors.
  - 3. Other doors to the extent indicated.
- B. Commercial door hardware includes, but is not necessarily limited to, the following:
  - 1. Mechanical door hardware.
  - 2. Electromechanical and access control door hardware.
  - 3. Electromechanical and access control door hardware power supplies, back-ups and surge protection.
  - 4. Automatic operators.
  - 5. Cylinders specified for doors in other sections.
- C. Related Sections:
  - 1. Division 08 Section "Hollow Metal Doors and Frames".
  - 2. Division 08 Section "Door Hardware".
  - 3. Division 26 Sections "Electrical".
  - 4. Division 28 Section "Access Control".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
  - 2. ICC/IBC - International Building Code.
  - 3. NFPA 70 - National Electrical Code.
  - 4. NFPA 80 - Fire Doors and Windows.
  - 5. NFPA 101 - Life Safety Code.
  - 6. NFPA 105 - Installation of Smoke Door Assemblies.
  - 7. State Building Codes, Local Amendments.

- E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

### 1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
  - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
  - 3. Content: Include the following information:
    - a. Type, style, function, size, label, hand, and finish of each door hardware item.
    - b. Manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - e. Explanation of abbreviations, symbols, and codes contained in schedule.
    - f. Mounting locations for door hardware.
    - g. Door and frame sizes and materials.
  - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- D. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.
- F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum [5] years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum [3] years documented experience installing both standard and electrified builders hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum [5] years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor in good standing by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- D. Source Limitations: Obtain each type and variety of Door Hardware specified in the Related Sections from a single source, qualified supplier unless otherwise indicated.
- E. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the applicable model building code.
- F. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

#### 1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Division 08 Sections (Steel, Aluminum and Wood) doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

#### 1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

#### 1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

### PART 2 - PRODUCTS

#### 2.1 SCHEDULED DOOR HARDWARE

- A. Refer to "PART 3 – EXECUTION" for required specification sections.

### PART 3 - EXECUTION

#### 3.1 DOOR HARDWARE SETS

- A. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.
- C. Products listed in the Door Hardware Sets must meet the requirements described in the specification sections noted.
  - 1. Section 08 71 00 – Door Hardware.
  - 2. Section 28 13 00 – Access Control.
- D. Manufacturer's Abbreviations:
  - 1. MK - McKinney
  - 2. AW - Arrow Lock
  - 3. AD - Adams Rite
  - 4. AA - ASSA High Security Locks
  - 5. HS - HES
  - 6. RO - Rockwood
  - 7. SA - Sargent
  - 8. PE - Pemko
  - 9. VD - Von Duprin
  - 10. AK - Alarm Controls
  - 11. OT - OTHER
  - 12. SU - Securitron
  - 13. RU - Corbin Russwin

\*\*\*\*\* THE ITEMS SCHEDULED ARE NOT TO BE SUBSTITUTED. SITE SURVEY WAS CONDUCTED AND LIKE ITEMS ARE SCHEDULED.\*\*\*\*\*



END OF SECTION 080671

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Standard and custom hollow metal doors and frames.
2. Steel sidelight, borrowed lite and transom frames.
3. Louvers installed in hollow metal doors.
4. Light frames and glazing installed in hollow metal doors.

B. Related Sections:

1. Division 04 Section "Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
2. Division 08 Section "Flush Wood Doors".
3. Division 08 Section "Glazing" for glass view panels in hollow metal doors.
4. Division 08 Section "Door Hardware".
5. Division 08 Section "Access Control Hardware".
6. Division 09 Sections "Exterior Painting" and "Interior Painting" for field painting hollow metal doors and frames.
7. Division 28 Section "Access Control" for access control devices installed at door openings and provided as part of a security access control system.

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
7. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

9. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
10. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.
11. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
12. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
13. ANSI/NFPA 105: Standard for the Installation of Smoke Door Assemblies.
14. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
15. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
16. UL 1784 - Standard for Air Leakage Tests of Door Assemblies.

### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, and finishes.
- B. Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.
- C. Shop Drawings: Include the following:
  1. Elevations of each door design.
  2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
  3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
  4. Locations of reinforcement and preparations for hardware.
  5. Details of anchorages, joints, field splices, and connections.
  6. Details of accessories.
  7. Details of moldings, removable stops, and glazing.
  8. Details of conduit and preparations for power, signal, and control systems.
- D. Samples for Verification:
  1. Samples are only required by request of the architect and for manufacturers that are not current members of the Steel Door Institute.

### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.
- B. Quality Standard: In addition to requirements specified, furnish SDI-Certified manufacturer products that comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

- C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL10C (neutral pressure at 40" above sill) or UL 10C.
  - 1. Oversize Fire-Rated Door Assemblies Construction: For units exceeding sizes of tested assemblies, attach construction label certifying doors are built to standard construction requirements for tested and labeled fire rated door assemblies except for size.
  - 2. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwell openings) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.
  - 3. Smoke Control Door Assemblies: Comply with NFPA 105.
    - a. Smoke "S" Label: Doors to bear "S" label, and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.
- D. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257. Provide labeled glazing material.
- E. Energy Efficient Exterior Openings: Comply with minimum thermal ratings, based on ASTM C1363. Openings to be fabricated and tested as fully operable, thermal insulating door and frame assemblies.
  - 1. Thermal Performance (Exterior Openings): Independent testing laboratory certification for exterior door assemblies being tested in accordance with ASTM C1363 and meet or exceed the following requirements:
    - a. Door Assembly Operable U-Factor and R-Value Ratings: U-Factor 0.29, R-Value 3.4, including insulated door, thermal-break frame and threshold.
  - 2. Air Infiltration (Exterior Openings): Independent testing laboratory certification for exterior door assemblies being tested in accordance with ASTM E283 to meet or exceed the following requirements:
    - a. Rate of leakage of the door assembly shall not exceed 0.25 cfm per square foot of static differential air pressure of 1.567 psf (equivalent to 25 mph wind velocity).
- F. Pre-Submittal Conference: Conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.

- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.
  - 1. Provide minimum 1/4-inch space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

#### 1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

#### 1.7 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

#### 1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
- B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide steel doors and frames from a SDI Certified manufacturer:
  - 1. CECO Door Products (C).
  - 2. Curries Company (CU).

#### 2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.



- C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

## 2.3 HOLLOW METAL DOORS

- A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMA 867.
- B. Exterior Doors (Energy Efficient): Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A924 A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model, ANSI/SDI A250.4 for physical performance level, and HMMA 867 for door construction.

1. Design: Flush panel.
2. Core Construction: Foamed in place polyurethane and steel stiffened laminated core with no stiffener face welds, in compliance with HMMA 867 "Laminated Core".
  - a. Provide 22 gauge steel stiffeners at 6 inches on-center internally welded at 5" on-center to integral core assembly, foamed in place polyurethane core chemically bonded to all interior surfaces. No stiffener face welding is permitted.
  - b. Thermal properties to rate at a fully operable minimum U-Factor 0.29 and R-Value 3.4, including insulated door, thermal-break frame and threshold.
  - c. Kerf Type Frames: Thermal properties to rate at a fully operable minimum U-Factor 0.36 and R-Value 2.7, including insulated door, kerf type frame, and threshold.
3. Level/Model: Level 3 and Physical Performance Level A (Extra Heavy Duty), Minimum 16 gauge (0.053 inch - 1.3-mm) thick steel, Model 2.
4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm).
5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9".
7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

- C. Manufacturers Basis of Design:

1. CECO Door Products (C) Honeycomb Core - Regent Series.
2. CECO Door Products (C) Energy Efficient - Trio-E Series.

## 2.4 FRAME ANCHORS

- A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
  2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
- B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
- C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

## 2.5 ACCESSORIES

- A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
- B. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.

## 2.6 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.
- C. Hollow Metal Doors:
1. Exterior Doors: Provide optional weep-hole openings in bottom of exterior doors to permit moisture to escape where specified.
- D. Hollow Metal Frames:
1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
  2. Welded Frames: Weld joints continuously through full throat width of frames, including rabbets, soffits, and stops; grind, fill, dress, and make smooth, flush, and invisible.
    - a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.
  3. Equal Rabbet Frames: Provide frames with equal rabbet dimensions unless glazing and removable stops require wider dimensions on glass side of frame.
  4. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.

5. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
6. Hospital (Terminated) Stops: Where indicated on the drawings, provide frame stops that terminate six inches above the bottom of each jamb. Close the bottom of the stop at a 45 degree angle.
7. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
8. Electrical Knock Out Boxes: Factory weld 18 gauge electrical knock out boxes to frame for electrical hardware preps; including but not limited to, electric through wire transfer hardware, electrical raceways and wiring harnesses, door position switches, electric strikes, magnetic locks, and jamb mounted card readers as specified in hardware sets in Division 08 Sections "Door Hardware" and "Access Control Hardware".
  - a. Provide electrical knock out boxes with a dual 1/2-inch and 3/4-inch knockouts.
  - b. Conduit to be coordinated and installed in the field (Division 26) from middle hinge box and strike box to door position box.
  - c. Electrical knock out boxes to comply with NFPA requirements and fit electrical door hardware as specified in hardware sets in Division 08 Section "Door Hardware".
  - d. Electrical knock out boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb.
9. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
10. Jamb Anchors: Provide number and spacing of anchors as follows:
  - a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
    - 1) Two anchors per jamb up to 60 inches high.
    - 2) Three anchors per jamb from 60 to 90 inches high.
    - 3) Four anchors per jamb from 90 to 120 inches high.
    - 4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.
  - b. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
    - 1) Three anchors per jamb up to 60 inches high.
    - 2) Four anchors per jamb from 60 to 90 inches high.
    - 3) Five anchors per jamb from 90 to 96 inches high.
    - 4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
    - 5) Two anchors per head for frames above 42 inches wide and mounted in metal stud partitions.
11. Door Silencers: Except on weatherstripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
12. Bituminous Coating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, coat inside of frame throat with a water based bituminous or



asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.

- E. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
  - 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
  - 2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
  - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
  - 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

## 2.7 STEEL FINISHES

- A. Prime Finishes: Doors and frames to be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the door and frame exposed to view to receive a factory applied coat of rust inhibiting shop primer.
  - 1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; and compatible with substrate and field-applied coatings.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.

- C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."
- D. Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

### 3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11 and NFPA 80 at fire rated openings.
  - 1. Set frames accurately in position, plumbed, leveled, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.
  - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
  - 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar.
  - 4. Grout Requirements: Do not grout head of frames unless reinforcing has been installed in head of frame. Do not grout vertical or horizontal closed mullion members.
- C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
  - 1. Non-Fire-Rated Standard Steel Doors:
    - a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
    - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
    - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
    - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.
  - 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
- D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

### 3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow metal work immediately after installation.



- C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

END OF SECTION 081113

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SECURITY CONDUCTORS & CABLES

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## PART 1 - GENERAL

## 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Drawings
  - 1. "Y" Drawings – Security Plans
- C. Related Sections:
  - 1. Division 280500 Section "Access Control" devices.

## 1.02 SUMMARY

- A. Description
  - 1. The awarded installation contractor of this section shall furnish and install all the cabling indicated within the architectural drawings associated with the Intrusion detection system and all access control devices associated with the secured doors. The access control devices shall be specified during the renovation phase of the High School.
- B. Section Includes:
  - 1. Pathways.
  - 2. Security cabling.
  - 3. Cable connecting hardware.
  - 4. Cabling system identification products.
  - 5. Electronic safety and security equipment coordination and installation.
  - 6. Common electronic safety and security installation requirements.

## 1.03 DEFINITIONS

- A. "Project Manager" shall mean the Owner's appointed representative.

- B. "As Necessary" shall mean work which is required for completed construction, but is not necessarily shown or described in the Contract Documents.
- C. "As Required" shall mean work which is required for completed construction and is shown on the drawings or described in the project specification.
- D. "Install" shall mean to set in place complete with all mounting facilities and connections as required ready for normal use of service
- E. "Substantial Completion" shall mean that the project is sufficiently complete to be utilized for its intended use as stated in the body of this written specification.
- F. "Conduit" shall include all fittings, sleeves, connections, hangers and other accessories related to such conduit.
- G. "Surface Metal Raceway" shall include all fittings, sleeves, connections, hangers and other accessories related to such raceway.
- H. "Concealed" shall mean hidden from sight, as in chases, furred spaces, shafts, fixed ceiling or embedded in construction.
- I. "Exposed", shall mean not "concealed" as defined above.
- J. "Governmental" shall mean all municipal, state and federal government agencies.
- K. The words "Furnish", "Supply" and "Provide" shall mean purchase, deliver to the job site, protect and provide interim storage and install in accordance with manufacturer's specifications.
- L. Words "Approved Equal" shall mean any product which in the opinion of the Technology Consultant is equal in quality, arrangement, appearance, and performance to the product specified.
- M. "Cabling" shall mean cable assembly, raceway, conductors, fittings and any other necessary accessories to make a complete wiring system.
- N. "Product" shall mean any item of equipment, material, fixture, apparatus, appliance or accessory installed under this Division.
- O. Words in the singular shall also mean and include the plural, wherever the context so indicates, and words in the plural shall mean the singular, wherever the context so indicates.
- P. "Contractor" refers to the bidding/installation Contractor responsible for furnishing and installation of all work indicated within this specification.

#### 1.04 SECURITY CABLING DESCRIPTION

- A. Security cable and its connecting hardware provide the means of transporting signals between the remote security devices and the main hardware located within the communications equipment rooms.

#### 1.05 SUBMITTALS

- A. Product Data: For each type of product indicated and utilized.
- B. Qualification Data: For Installer, qualified layout technician, installation supervisor, and field inspector.
- C. Source quality-control reports.
- D. Field quality-control reports.
- E. Maintenance Data: For splices and connectors to include in maintenance manuals.

#### 1.06 QUALITY ASSURANCE

- A. Codes and Standards:
  - 1. All materials and workmanship shall comply with the latest additions of all applicable Codes, Specifications, Local and State Ordinances and Industry Standards.
  - 2. The Contractor shall promptly notify the Construction Manager in case of conflict between Building Codes, State Laws, Local Ordinances and the Contract Documents.
  - 3. Should the Contractor perform any work that does not comply with the requirements of the applicable Building Codes, Local Ordinances and Industry Standards, they shall bear all costs arising in correcting the deficiencies.
  - 4. The Contractor, for the work in their scope, shall give all necessary notices, obtain all permits, pay all governmental taxes, fees and other costs in connection with his work; file for necessary approvals with the jurisdiction under which the work is to be performed. The Contractor shall obtain all required Certificates of Inspection for his respective work and deliver same to the Construction Manager before request for acceptance of their work is made and before final payment.

#### 1.07 COORDINATION

- A. Coordinate layout and installation of security pathways and cabling with Owner's telecommunications and LAN equipment and Security service suppliers.

- B. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 07 Section "Penetration Firestopping.

## PART 2 - PRODUCTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Belden CDT Inc. Electronics Division.
  - 2. West Penn.
  - 3. Approved Equivalent.
- B. Cabling size and conductor quantities are described within the architectural drawing package.
- C. All cabling shall be plenum rated.

### 2.02 SLEEVE SEALS

- A. Sleeves shall be adequately sized for the conduits and cables to be installed, with sufficient free space to install sealing caulk or putty. All sleeves will be fabricated of 1" minimum O.D. EMT, deburred, material with a plastic or metal collar securely fastened to each end.
- B. Where penetrations are within floor slabs and fire rated partitions, pack the annular space between the sleeves and the conduit or cables with fire-retardant putty. The sealant material shall be intumescent, asbestos free and installed in accordance with UL and the manufacturer's instructions.
- C. Fire-retardant sealer and system shall be UL listed for the application and meet ASTM E-84, ASTM E-814, and UL 1479 requirements. Use Nelson "FSP" or approved equal.
- D. If Contractor elects to utilize any penetration which may currently exist, then it is the Contractor's responsibility to properly sleeve and firestop that penetration prior to completion of project.

### 2.03 FIRESTOPPING

- A. All conduits etc., passing through fire rated floors, walls and partitions, shall have the space between the raceways, sleeves and all penetrations filled with a reusable fire stopping material such as Firestop Putty, Adhesive Firestop Sealant or Firestop Compound as manufactured by STI or approved equal.



2.04 IDENTIFICATION PRODUCTS

- A. Comply with TIA-606-B and UL 969 for labeling materials, including label stocks, laminating adhesives, and inks used by label printers.
- B. All security cabling shall be labeled at both ends.

2.05 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate cables.
- B. Testing: Continuity of cabling shall be performed and test results submitted to the Owner.

PART 3 - EXECUTION

- 3.01 All locations shown on the architectural drawings are for approximation purposes only and must be field verified prior to installation. 10' service loops are required to enable terminations subsequent to device installation.

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END OF SECTION 28 05 00

# CERTAINTY 400 SERIES

ENTERPRISE COMMERCIAL SERVER



The Seneca Experience puts the integrator first through innovation. We use decades of experience to accommodate our partners from planning and deployment to monitoring and post-sale support.

The Seneca Certainty 400 Series Server is purpose-built with one thing in mind: high-camera-count, large-retention video surveillance installations. From transportation to government facilities – and any venue in between – the Seneca Certainty 400 series is the server of choice.

## KEY FEATURES

- Comes standard with xConnect and Maestro technology
- Five-year global next-day, on-site service warranty
- Up to 384 TB of raw storage
- RAID options 0, 1, 5, 6, 10
- Available in 12, 18 and 24 bay form factors

## THE SENECA DIFFERENCE

### **xCONNECT** Remote Management Platform

Seneca's exclusive xConnect platform puts you in complete control of your security hardware with an easy-to-use dashboard that allows you to audit, manage and act remotely. Instant alerts report problems before customers do, making you more proactive. Off-site control means less truck rolls and more profitability.

### **maestro** Optimization realized

Also standard with all Seneca Servers, Maestro gets your optimized system up and running in minutes instead of hours. We channeled years of value engineering into an intuitive dashboard that eliminates hundreds of keystrokes. You don't even need an internet connection or data transfer from external drives.



— POWERED BY —  
**DELL** Technologies



## CERTAINTY 400 SERIES

### SPECIFICATIONS

#### SYSTEM

|                             |   |
|-----------------------------|---|
| <b>Processor</b>            | 2 x Intel® Xeon® Silver 4216 Processor  |
| <b>Operating System</b>     | Windows Server 2019; Windows10 IoT  |
| <b>Manufacturer</b>         | Seneca  |
| <b>Memory</b>               | <b>Default:</b> 32GB (4x8GB) DDR4 2666MHz<br><b>Option:</b> Up to 128GB DDR4 2666MHz              |
| <b>Maximum Data Storage</b> | Up to 384 TB  |
| <b>Video Outputs</b>        | VGA<br>12 and 18 bay only   |
| <b>Graphics</b>             | Onboard graphics  |
| <b>Networking</b>           | 4 x 1GbE (optional + 2 x 10GbE SFP+ Configuration)  |
| <b>USB</b>                  | Front: 2 x USB 2.0; Rear: 2 x USB 3.0   |
| <b>RAID</b>                 | Operating System RAID: 2 x 240GB SSD (RAID 1)<br>Data RAID Level: PERC H740P JBOD, 0, 1, 5, 6, 10 |
| <b>Hardware Monitoring</b>  | Pre-Installed with Seneca xConnect Server Agent; iDRAC  |
| <b>Warranty</b>             | 5 Year Global Next Day, Onsite Warranty Standard, Keep Your Harddrive Option                      |

#### MECHANICAL

|                               |  |
|-------------------------------|--|
| <b>Form Factor</b>            | 2U Rackmount   |
| <b>OS Drive Bays</b>          | 2x 240GB M.2 via BOSS PCIe Card  |
| <b>Data Drive Bays</b>        | Up to 18 x 3.5" Data Drives (14 Hot Swappable, 4 Fixed) 12, 18* and 24 bay hot swap.<br>*(14 Hot Swap, 4 Fixed)  |
| <b>Power Supply</b>           | 12 bay: Dual 750W hot plug redundant 80+ Platinum<br>18 and 24bay: 1100W Platinum Full Redundant   |
| <b>Ambient Operating Temp</b> | 10°C to 35°C (50°F to 95°F)  |
| <b>Operating Humidity</b>     | 5% ~ 90% non-condensing  |
| <b>Dimensions (w x h x d)</b> | 12 Bay: 17.08 x 3.4 x 27.86 in / 434 x 86 x 708 mm<br>18 Bay: 17.08 x 3.4 x 28.16 in / 434 x 86 x 715 mm<br>24 bay: 17.6 x 3.4 x 31.9/448 x 86.8 x 810mm |
| <b>Weight</b>                 | 71.5lbs/32.5kg fully populated<br>12/18 bay: 75lbs/33.0kg<br>24bay: 88lbs/40.0kg   |

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Dell Technologies



Specifications are subject to change, contact your account representative for current configuration.

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v6.07.30.21

# ASSURANCE 300 SERIES

PROFESSIONAL COMMERCIAL SERVER



The Seneca Experience puts the integrator first through innovation. We use decades of experience to accommodate our partners from planning and deployment to monitoring and post-sale support.

Designed with best-in-class enterprise components, this appliance and mission-critical projects go hand-in-hand. High throughput and performance balance your camera load while scalable architecture keeps stride with your retention requirements.

## KEY FEATURES

- Comes standard with xConnect and Maestro technology
- Five-year global next-day, on-site service warranty
- Up to 288 TB of raw storage
- RAID options 0, 1, 5, 6, 10
- Available in 6, 12 and 18 bay form factors

## THE SENECA DIFFERENCE

### xCONNECT

*Remote Management Platform*

Seneca's exclusive xConnect platform puts you in complete control of your security hardware with an easy-to-use dashboard that allows you to audit, manage and act remotely. Instant alerts report problems before customers do, making you more proactive. Off-site control means less truck rolls and more profitability.

### **maestro**

*Optimization realized*

Also standard with all Seneca servers, Maestro gets your optimized system up and running in minutes instead of hours. We channeled years of value engineering into an intuitive dashboard that eliminates hundreds of keystrokes. You don't even need an internet connection or data transfer from external drives.



— POWERED BY —  
**DELL** Technologies



# ASSURANCE 300 SERIES

## SPECIFICATIONS

### SYSTEM

|                             |   |
|-----------------------------|---|
| <b>Processor</b>            | Intel® Xeon® Silver 4210R (4216 Upgrade)  |
| <b>Operating System</b>     | Windows Server 2019; Windows10 IoT  |
| <b>Manufacturer</b>         | Seneca  |
| <b>Memory</b>               | <b>Default:</b> 16GB (2x8GB) DDR4 2666MHz<br><b>Option:</b> Up to 64GB DDR4 2666MHz               |
| <b>Maximum Data Storage</b> | Up to 288 TB  |
| <b>Video Outputs</b>        | VGA<br>Optional NVIDIA Quadro P1000 GPU<br>Optional NVIDIA Quadro P2000 GPU                       |
| <b>Graphics</b>             | Onboard graphics  |
| <b>Networking</b>           | 4 x 1GbE with optional 10GbE SFP+   |
| <b>USB</b>                  | Front: 1 x USB 2.0; Rear: 2 x USB 3.0   |
| <b>RAID</b>                 | Operating System RAID: 2 x 240GB SSD (RAID 1)<br>Data RAID Level: PERC H730P JBOD, 0, 1, 5, 6, 10 |
| <b>Hardware Monitoring</b>  | Pre-Installed with Seneca xConnect Server Agent; iDRAC  |
| <b>Warranty</b>             | 5 Year Global Next Day, Onsite Warranty Standard, Keep Your Harddrive Option                      |

### MECHANICAL

|                               |  |
|-------------------------------|--|
| <b>Form Factor</b>            | 2U Rackmount   |
| <b>OS Drive Bays</b>          | 2x 240GB M.2 via BOSS PCIe Card  |
| <b>Data Drive Bays</b>        | 6, 12 and 18* X hot swap<br>*(14 Hot Swap, 4 Fixed))   |
| <b>Power Supply</b>           | 6 and 12 bay: Dual 750W Hot plug Redundant<br>18 bay: 1100W Platinum Full Redundant                            |
| <b>Ambient Operating Temp</b> | 10°C to 35°C (50°F to 95°F)  |
| <b>Operating Humidity</b>     | 5% ~ 90% non-condensing  |
| <b>Dimensions (w x h x d)</b> | 6 and 12 bay: 17.08 x 3.4 x 27.86 in / 434 x 86 x 708 mm<br>18 bay: 17.08 x 3.4 x 28.16 in / 434 x 86 x 715 mm |
| <b>Weight</b>                 | 71.5lbs/32.5kg fully populated   |

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DELL Technologies



Specifications are subject to change, contact your account representative for current configuration.  
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**CITY OF WATERBURY  
BOARD OF EDUCATION**

**RFP # 7221**

**ATTACHMENT E**

**Contractor Qualification Statement**

**(Must be submitted as part of Proposal)**

The undersigned certifies under oath the truth and correctness of statements and all answers to questions made hereinafter.

**SUBMITTED TO: DEPARTMENT OF PURCHASING, CITY OF WATERBURY**

**SUBMITTED BY:**

**NAME:** Ryan Zawerton

**BUSINESS NAME:** Environmental Systems Corp. ( ☒ ) Corporation

( ☐ ) Partnership

( ☐ ) Individual

**OFFICE ADDRESS:** 18 Jansen Court, West Hartford, CT ( ☐ ) Joint Venture

( ☐ ) Other

**PRINCIPAL OFFICE:** 18 Jansen Court, West Hartford, CT

**BUSINESS TELEPHONE NUMBER:** (860) 953-8800

**BUSINESS FAX NUMBER:** (860) 953-1094

**BUSINESS EMAIL ADDRESS:** r.zawerton@esccontrols.com

**(NOTE: Attach separate sheets as required)**

1. How many years has your organization been in business?

50

2. How many years has your organization been in business under its present business name?

50

3. If a Corporation OR LLC, answer the following:

Date of Incorporation: 1972

State of Incorporation: CT

President/Member:

**CITY OF WATERBURY  
BOARD OF EDUCATION**

Craig McCurdy

Vice Presidents/Members:

Mike Amedeo

Ben Denalsky

Secretary/Member:

Jocena McCurdy

Treasurer/Member:

Peter Begin

4. If a Partnership, Individual, Joint Venture or other, answer the following:

Date of Incorporation: N/A

State of Operation: N/A

Officers and Titles:

N/A

5. List contracts on hand (other than existing contracts with the City of Waterbury). Schedule these, showing amount of each contract and the appropriate anticipated dates of completion/expiration:

N/A

**CITY OF WATERBURY  
BOARD OF EDUCATION**

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*NOTE: The City may contact one or more of the organizations associated with the above-listed contracts as part of assessing the experience, expertise and capabilities of the Proposer.*

6. Have you or your company ever failed to complete any work awarded to you, or have you ever defaulted on a contract?

If YES, please explain circumstance(s):

N/A

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7. Disclose any current (within the last 3 years) business, financial, personal or other types of relationships which may pose a conflict of interest with providing services to the City.

N/A

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8. List your major equipment available for this contract.

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**CITY OF WATERBURY  
BOARD OF EDUCATION**

9. Contractor's chain of command and off-hours telephone numbers, cellular and otherwise, to be used for the Project:

Sean Jarry, Director, Security/Fire Ops. (860) 726-8654  
(Title) (Name / Telephone Number)

Ken Waldo, Project Manager, Security (860) 881-4793  
(Title) (Name / Telephone Number)

Ryan Zawerton, Project Manager, Security (860) 571-1303  
(Title) (Name / Telephone Number)

**The undersigned certifies under oath to the truth and correctness of statements and all answers to questions made herein.**

10. Dated at 18 Jansen Court this \_\_\_\_\_ day of March, 2022

Name of Contractor:

Environmental Systems Corp.

By:

Mike Amedeo

Michael Amedeo  
(Print and sign name of duly authorized principal)

Title:

VP, Sales

**END OF ATTACHMENT E**

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES  
CONTRACT COMPLIANCE REGULATIONS  
NOTIFICATION TO BIDDERS**

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to "aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials." "Minority business enterprise" is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: "(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n." "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . ." An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder's qualifications under the contract compliance requirements:

- (a) the bidder's success in implementing an affirmative action plan;
- (b) the bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder's promise to develop and implement a successful affirmative action plan;
- (d) the bidder's submission of employment statistics contained in the "Employment Information Form", indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder's promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

---

**INSTRUCTIONS AND OTHER INFORMATION**

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder's good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

**1) Definition of Small Contractor**

Section 4a-60g CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.



2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

**MANAGEMENT:** Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

**BUSINESS AND FINANCIAL OPERATIONS:** These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

**MARKETING AND SALES:** Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

**LEGAL OCCUPATIONS:** In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

**COMPUTER SPECIALISTS:** Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists.

**ARCHITECTURE AND ENGINEERING:** Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

**OFFICE AND ADMINISTRATIVE SUPPORT:** All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

**BUILDING AND GROUNDS CLEANING AND MAINTENANCE:** This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

**CONSTRUCTION AND EXTRACTION:** This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category..

**INSTALLATION, MAINTENANCE AND REPAIR:** Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

**MATERIAL MOVING WORKERS:** The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

**PRODUCTION WORKERS:** The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

White (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.

Black(not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa.

Hispanic- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

Asian or Pacific Islander- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.

American Indian or Alaskan Native- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

## BIDDER CONTRACT COMPLIANCE MONITORING REPORT

### PART I - Bidder Information

|   |  |
|---|--|
| Company Name <b>Environmental Systems Corp.</b><br>Street Address <b>18 Jansen Court</b><br>City & State <b>West Hartford, CT</b><br>Chief Executive <b>Craig McCurdy</b>                             | Bidder Federal Employer<br>Identification Number <b>06-0880545</b><br>Or<br>Social Security Number _____   |
| Major Business Activity<br>(brief description)<br><br><b>Servicing and installation of HVAC/Mechanical, Building Automation, Security/Fire/Life Safety, AV, Access Controls and Energy Efficiency</b> | Bidder Identification<br>(response optional/definitions on page 1)<br><br>-Bidder is a small contractor. Yes ___ No <u>X</u><br>-Bidder is a minority business enterprise Yes ___ No <u>X</u><br>(If yes, check ownership category)<br>Black ___ Hispanic ___ Asian American ___ American Indian/Alaskan Native ___ Iberian Peninsula ___ Individual(s) with a Physical Disability ___ Female ___<br><br>- Bidder is certified as above by State of CT Yes <u>X</u> No ___ |
| Bidder Parent Company<br>(If any) <b>N/A</b>  |  |
| Other Locations in Ct.<br>(If any) <b>N/A</b>   |  |

### PART II - Bidder Nondiscrimination Policies and Procedures

|  |   |
|--|---|
| 1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards?<br>Yes___ No <u>X</u>   | 7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.?<br>Yes___ No <u>X</u>  |
| 2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards?<br>Yes <u>X</u> No___   | 8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability?<br>Yes <u>X</u> No___   |
| 3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy?<br>Yes___ No <u>X</u>   | 9. Does your company have a mandatory retirement age for all employees?<br>Yes___ No <u>X</u>   |
| 4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer?<br>Yes___ No <u>X</u>   | 10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors?<br>Yes <u>X</u> No___ NA___  |
| 5. Do you notify the Ct. State Employment Service of all employment openings with your company?<br>Yes___ No <u>X</u>  | 11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor?<br>Yes <u>X</u> No___ NA___ |
| 6. Does your company have a collective bargaining agreement with workers?<br>Yes___ No <u>X</u><br>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes___ No___ | 12. Does your company have a written affirmative action Plan? Yes <u>X</u> No___<br>If no, please explain.  |
| 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of Ct?<br>Yes___ No___  | 13. Is there a person in your company who is responsible for equal employment opportunity?<br>If yes, give name and phone number.<br><u>Mike Mullin, COO (860) 953-8800</u>   |

# Part III - Bidder Subcontracting Practices

(Page 4)

1. Will the work of this contract include subcontractors or suppliers? Yes ☒ No ☐

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

Subs: Mercury (small/women owned); Empower (vet owned/small business/possibly minority); McMillan Electric (small business, possible minority); ADI (supplier)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above?

Yes ☐ No ☒

## PART IV - Bidder Employment Information

Date: March 31, 2022

| JOB CATEGORY *  | OVERALL TOTALS | WHITE<br>(not of Hispanic origin) |        | BLACK<br>(not of Hispanic origin) |        | HISPANIC |        | ASIAN or PACIFIC ISLANDER |        | AMERICAN INDIAN or ALASKAN NATIVE |        |
|---|----------------|-----------------------------------|--------|-----------------------------------|--------|----------|--------|---------------------------|--------|-----------------------------------|--------|
|   |                | Male                              | Female | Male                              | Female | Male     | Female | Male                      | Female | male                              | female |
| Management  | 33             | 26                                | 7      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Business & Financial Ops  | 4              | 1                                 | 3      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Marketing & Sales   | 15             | 15                                | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Legal Occupations   | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Computer Specialists  | 3              | 3                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Architecture/Engineering  | 20             | 20                                | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Office & Admin Support  | 13             | 0                                 | 13     | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Bldg/ Grounds Cleaning/Maintenance  | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Construction & Extraction   | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Installation, Maintenance & Repair  | 58             | 52                                | 0      | 1                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Material Moving Workers   | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Production Occupations  | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| TOTALS ABOVE  | 147            | 118                               | 23     | 1                                 | 0      | 2        | 0      | 3                         | 0      | 0                                 | 0      |
| Total One Year Ago  |                |                                   |        |                                   |        |          |        |                           |        |                                   |        |
| FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE) |                |                                   |        |                                   |        |          |        |                           |        |                                   |        |
| Apprentices   | 12             | 10                                | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |
| Trainees  | 0              | 0                                 | 0      | 0                                 | 0      | 0        | 0      | 0                         | 0      | 0                                 | 0      |


\*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

## PART V - Bidder Hiring and Recruitment Practices

(Page 5)

|  |     |    |                                    |   |                                   |   |
|--|-----|----|------------------------------------|---|-----------------------------------|---|
| 1. Which of the following recruitment sources are used by you?<br>(Check yes or no, and report percent used) |     |    |                                    | 2. Check (X) any of the below listed requirements that you use as a hiring qualification<br><br>(X) |                                   | 3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination<br><br>N/A |
| SOURCE   | YES | NO | % of applicants provided by source |   |                                   |   |
| State Employment Service   |     | X  |                                    | X   | Work Experience                   |   |
| Private Employment Agencies  |     | X  |                                    | X   | Ability to Speak or Write English |   |
| Schools and Colleges   | X   |    |                                    | X   | Written Tests                     |   |
| Newspaper Advertisement  |     | X  |                                    |   | High School Diploma               |   |
| Walk Ins   | X   |    |                                    |   | College Degree                    |   |
| Present Employees  | X   |    |                                    |   | Union Membership                  |   |
| Labor Organizations  |     | X  |                                    | X   | Personal Recommendation           |   |
| Minority/Community Organizations   |     | X  |                                    |   | Height or Weight                  |   |
| Others (please identify)   |     | X  |                                    | X   | Car Ownership                     |   |
|  |     |    |                                    |   | Arrest Record                     |   |
|  |     |    |                                    |   | Wage Garnishments                 |   |

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

|  |                      |                             |                               |
|--|----------------------|-----------------------------|-------------------------------|
| (Signature)<br> | (Title)<br>VP, Sales | (Date Signed)<br>03/31/2022 | (Telephone)<br>(860) 953-8800 |
|--|----------------------|-----------------------------|-------------------------------|

## CHAPTER 34: CITY POLICY

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### Section

#### *General Provisions*

34.01 Lost articles; state law adopted

#### *Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects*

34.10 Title

34.15 Purpose

34.16 Findings

34.17 Definitions

34.18 Hiring goal and implementation

34.19 Referral mechanism

34.20 Monitoring

34.21 Good faith efforts

34.22 Contract requirements for covered services

#### ***Cross-reference:***

*Centralized procurement system, see Ch. 38*

*Interlocal agreements, see Ch. 40*

#### ***Statutory reference:***

*Advertising; sale of perishable goods, see Conn. Gen. Stat. § 50-11*

*Disposition after expiration of time for making claim, see Conn. Gen. Stat. § 50-14*

*Duties of finder, see Conn. Gen. Stat. § 50-10*

*Lost and unclaimed property, see Conn. Gen. Stat. Ch. 859*

*Procedure if unclaimed, see Conn. Gen. Stat. § 50-13*

*Restoration to owner if claimed, see Conn. Gen. Stat. § 50-12*

### GENERAL PROVISIONS

#### **§ 34.01 LOST ARTICLES; STATE LAW ADOPTED.**

The provisions of Conn. Gen. Stat. §§ 50-10 through 50-14 are adopted as permitted by Conn. Gen. Stat. § 50-9 and shall apply within the city to the finding of any article of the value of \$1 or more.

(1967 Code, § 13-11)

### HIRING OF WATERBURY RESIDENTS ON CERTAIN PUBLICLY-FUNDED CONSTRUCTION PROJECTS



## **§ 34.10 TITLE.**

The City of Waterbury Code of Ordinances §§ 34.10 through 34.22 entitled “Hiring of Waterbury Residents on Certain Publicly-Funded Construction Projects” shall also be known and may be cited as the “Good Jobs Ordinance” for the City.

(Ord. passed 5-11-2015)

## **§ 34.15 PURPOSE.**

The purpose of this subchapter is to increase the benefit to the City of Waterbury and its residents from the city’s investment of public funds in certain publicly-funded construction projects to allow the city to recognize, as a benefit of such investment, a reduction in the amount of poverty and unemployment that would otherwise exist amongst its residents and also to help reduce the economic burden that would otherwise be placed on the city in having to provide alternative assistance to those residents who, but for their being hired pursuant to the provisions of this ordinance, would remain unemployed.

(Ord. passed 2-21-2012)

## **§ 34.16 FINDINGS.**

The City of Waterbury finds that a substantial number of city residents are not being employed by contractors performing work on publicly-funded construction projects in the City of Waterbury and that the residents, therefor, are not receiving the maximum possible benefit from the City of Waterbury’s investment of public funds in the projects. The city further finds that:

(A) Recent research of hiring patterns on construction projects reveals a pattern of low hiring of residents in favor of nonresidents whose hiring is draining significant resources from the city.

(1) Only 14% of work hours performed on the construction of the \$138,000,000 waste water treatment plant in 1998 - 1999 were performed by residents;

(2) Only 10% of laborers hours on city street paving in 1999 were performed by residents;

(3) With an average wage of \$21 per hour on tax-funded city construction work as exemplified by the waste water treatment plant construction project, more than \$13,000,000 in wages was lost by city residents on that project. Due to typical turnover of those funds among businesses in the community, \$13,000,000 - \$26,000,000 of additional economic activity from the multiplier affect was lost to city businesses;

(4) As a result of the high percentage of noncity residents on construction projects, fewer Waterbury residents are able to be home owners, thus reducing property taxes to the city. For each resident who loses the opportunity to be a home owner, the city loses an estimated \$2,000 in revenue per year.

(5) The migration of benefits caused by the high percentage of noncity residents on construction projects increases the burden on health care providers to provide uncompensated care to Waterbury residents without health insurance. Over the course of the waste water treatment plant project alone, for example, \$5,000,000 in health and pension benefits were lost to city residents. If this subchapter were minimally met, it would double the wages and benefits going to city residents; and

(6) The extra cost to tax payers of the under-usage of apprentices on the project compared to what is permissible under state law is estimated at close to \$1,000,000.

(B) Waterbury residents face higher rates of unemployment than other towns and cities in the region and state.

(1) The unemployment rate among construction workers who are residents of the city is 50% higher than the statewide unemployment rate among construction workers, and more than double the unemployment rate among construction workers in similarly-sized cities. For example, the Connecticut Department of Labor reports

that in September 1999, 324 city residents applied for construction jobs at unemployment offices out of a total construction workforce of 3,600 (9%). Statewide, 3,908 applicants applied out of a total construction labor force of 63,800 (6%). In Danbury, 166 city residents applied out of a total construction workforce of 4,100 (4%).

(2) Since 1984 the city's unemployment rate has been consistently higher than the rate of unemployment in the Naugatuck Valley region and the state. Unemployment is especially severe in some neighborhoods, which faced up to 19% unemployment, compared to the city's 8% unemployment in the 1990 Census.

(C) Poverty is much greater and incomes are much lower in Waterbury than elsewhere in the region and state.

(1) According to the 1990 Census, 12.1% of the city's residents lived below the poverty level, compared to 2.7% in the rest of the region and 6.8% statewide.

(2) Median 1990 household income was \$30,533 in Waterbury compared to \$41,721 for the state, and compared to \$45,000 - \$67,500 for towns in the rest of the Naugatuck Valley region. Estimates updating this data to 1997 show little change. Residents on average earn \$10,000 less per capita than the statewide average of \$28,000.

(3) Poverty is even more pronounced in some neighborhoods with up to 30% of their residents in poverty.

(4) The average wage for residents coming off of welfare in the city is one of the lowest in the State of Connecticut at \$5.93 per hour.

(5) Over one-third of female headed households are under poverty.

(6) City children are among the poorest in the State of Connecticut, 61% of students city-wide are eligible for reduced price meals versus 25% statewide.

(Ord. passed 2-21-2012)

## **§ 34.17 DEFINITIONS.**

For the purpose of this subchapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

**ADMINISTRATOR.** The person(s), city department or agency designated by the Mayor of the city with the responsibility of overseeing the implementation and enforcement of this subchapter.

**APPRENTICE.** Definition as set forth in Conn. Gen. Stat. § 31-22m and any subsequent amendments approved by the Connecticut General Assembly is incorporated by reference herein.

**BASIC SKILLED WORKER.** A person who is currently enrolled in or having completed a training program administered by or on behalf of a legally organized labor union or a state-approved standardized craft training program. Specifically excluded from this definition is an **APPRENTICE** as defined by Conn. Gen. Stat. § 31-22m.

**CITY.** The City of Waterbury, Connecticut.

**CITY FUNDS.** Funds originating within the city pursuant to the city's taxing powers or authority to raise money through the sale of public bonds, permit tax abatements and enter into tax fixing agreements and tax increment financing agreements.

**CONSTRUCTION.** The process of building, altering, repairing, improving or demolishing any public infrastructure facility, including any public structure, public building or other public improvements of any kind to city property or other property or space in which the city has an interest. It does not include the routine operation, routine repair or routine maintenance of any existing public infrastructure facility, including structures, buildings or real property.

**CONSTRUCTION PROJECT.** Any project for which the primary purpose involves construction, as defined above, deconstruction, the remediation of any hazardous materials as defined in the Connecticut General

Statutes, the rehabilitation or renovation of any structure or the creation, extension, reconstruction, reconditioning or rebuilding of any portion of a municipal infrastructure or public utility system.

**CONTRACTOR.** Any person hired by the city, directly or indirectly through an owner, to perform construction work on covered projects, including subcontractors hired by general contractors.

**COVERED PROJECT.** Any construction project taking place in the city with a value of \$500,000 or greater, funded in whole or in part by city funds or funds administered by the city in accordance with federal or state grant or loan programs or any other federal or state programs pursuant to which the city is funding, in whole or in part, the project. This definition of **COVERED PROJECT** shall include funds derived from the aforementioned federal or state grant, loan or other programs only to the extent permitted by federal and state law. The value of the projects shall equal the total consideration to be paid to all contractors stated in each contract pursuant to which contractors are performing construction work on covered projects.

**FIRST-SOURCE REFERRAL PROGRAM.** A program whose purpose includes but is not limited to, job training and the referral of qualified residents to contractors. The **FIRST-SOURCE REFERRAL PROGRAM** shall use the Good Jobs umbrella coalition of community groups and churches as a priority source for recruitment.

**GOOD JOBS ADMINISTRATION BUDGET.** The amount of funding required to oversee the implementation and enforcement of this subchapter in a given fiscal year.

**HIRING GOAL.** The 30% of the total worker hours on each covered project shall be performed by residents. At least 25% of construction trade jobs shall go to apprentices and/or basic skilled workers. At least 70% of all “new hires” (those workers hired by a contractor on a project, other than existing employees and those referred by union hiring halls with prior seniority in the case of a union job) shall be “economically disadvantaged” individuals, defined as those earning less than 150% of the poverty line at the time of application. A minimum of 5% of the construction workforce labor hours will be local resident, minority artisans. A minimum of 5% of the construction workforce labor hours will be women. A minimum of 10% of the total work hours shall be allocated for minorities. Contractors are expected to employ a workforce that represents the population of the city.

**LIAISON COMMITTEE.** The committee established by the Board of Aldermen to monitor compliance with the provisions of this subchapter, and make recommendations to the Administrator and the Board of Aldermen regarding administration of this subchapter. The committee shall convene at a minimum of once every quarter in a space open to the public. The committee shall be comprised of two representatives of the Board of Aldermen one to be appointed by the President of the Board of Aldermen and one to be appointed by the Minority Leader on the Board of Aldermen, one representative from the Board of Education to be appointed by the President of the Board of Education, one representative of the Workforce Development Board, and five representatives who are appointed by the Board of Aldermen to represent: one contractor, one union, one civil rights group, one community and one Human Rights Commission. The committee members shall serve for a term of two years, and this nomination and selection process shall be used to fill any vacancy.

**NEW HIRE.** Those workers hired by a contractor on a project, other than existing employees, and those referred by union hiring halls with prior seniority in the case of a union job.

**OWNER.** The person who enters into a contract with a contractor for work on a covered project other than the city.

**PERSON.** An individual or a company, partnership, foreign or domestic corporation, partnership, limited liability company or other business entity.

**RESIDENT.** Any person whose domicile is the City of Waterbury, Connecticut.

**ROUTINE MAINTENANCE.** Simple, small-scale activities (usually requiring only minimal skills or training) planned and performed at regular intervals and being necessary to (1) extend the life of, or to delay or prevent the premature failure of, any plant or system or of any structure or structural system, building component or equipment; or (2) protect against normal wear and tear; or (3) maintain a suitable aesthetic

appearance. Examples of **ROUTINE MAINTENANCE** may include, but are not limited to, lawn or grass cutting, hedge trimming, painting, caulking, sealing, plumbing or electrical repairs, carpet cleaning or other cleaning performed at regular intervals.

**SUBCONTRACTOR.** Any person hired by a contractor to perform construction work on covered projects.  
(Ord. passed 2-21-2012; Ord. passed 8-19-2013; Ord. passed 5-11-2015)

### **§ 34.18 HIRING GOAL AND IMPLEMENTATION.**

(A) All contractors and subcontractors performing work on covered projects shall make good faith efforts to satisfy the hiring goal.

(B) Any contractors or subcontractors that fail to meet the hiring goal shall be required to demonstrate to the Administrator's satisfaction that the contractor or subcontractor made good faith efforts to meet the hiring goal.

(C) (1) The Mayor of the city shall appoint an Administrator annually no later than June 30th to serve as the Administrator for the city's fiscal year following such appointment or within 30 days of a vacancy that might arise during any fiscal year. The foregoing notwithstanding, an incumbent Administrator shall serve until their successor has been appointed and qualified. If, in the event of a vacancy, the Mayor fails to appoint a replacement Administrator within the first 30 days following the effective date of that vacancy, then the Board of Aldermen shall have the power to fill the vacancy provided that the Board does so:

(a) Within 30 days from the date upon which the power to make the appointment vested in the Board; or

(b) Prior to May 31st if the power to make the appointment vests in the Board on or after May 1st.

(2) Should the Board fail to make the appointment during any 30 day period it has to do so, or prior to May 31st if the power to make the appointment vests in the Board on or after May 1st, then the power of appointment shall revert to the Mayor. Thereafter, throughout the remainder of the then current fiscal year, the power to make the appointment shall alternate between the Mayor and the Board, at 30 day intervals, until an appointment is made or until June 1st at which point in time the power to make the appointment shall vest in the Mayor.

(D) The Mayor shall annually, prior to the adoption of the city's budget for the then next fiscal year and after consultation with the Administrator and all relevant city department heads, establish a Good Jobs Administration Budget for the then next fiscal year and the Mayor shall include a line item in his annual budget submission to the Board of Aldermen sufficient to fund the Good Jobs Administration Budget. If, during the fiscal year in which the Mayor submits a given Good Jobs Administration Budget as part of his budget submission, the city has received as liquidated damages, pursuant to its contracts for covered projects, an amount greater than or equal to the Good Jobs Administration Budget as then submitted by the Mayor, the city shall be required to fund the Good Jobs Administration Budget as submitted by the Mayor and approved by the Board of Aldermen. To the extent possible, the cost required to oversee the implementation and enforcement of this subchapter for each project shall be funded and paid for through each project.

(Ord. passed 2-21-2012; Ord. passed 5-11-2015)

### **§ 34.19 REFERRAL MECHANISM.**

(A) No less than four weeks prior to the commencement of construction on covered projects, the contractor shall meet with the Administrator and provide the number of job positions to be created by the project by trade and the qualifications by job title. The Administrator shall make reasonable efforts to ensure that adequate job training is available to the extent necessary to achieve the hiring goal and that screening and referral mechanisms are in place so that contractors can access qualified residents. Additionally, the Administrator shall designate a first-source referral program for the city.

(B) In the event a contractor or subcontractor cannot satisfy the hiring goal through its own employees and union hiring halls, the contractor or subcontractor shall next utilize the first source referral program in order to

satisfy the hiring goal. The contractor or subcontractor must wait five business days after a request has been submitted before advertising the position elsewhere.

(C) Qualifications required shall be only those relevant to the job. In satisfying the hiring goal, the contractor and any subcontractor shall employ all qualified persons referred by the first source referral program. The contractor and any subcontractor must utilize the first source referral program whenever its hiring needs increase and they are unable to comply with the hiring goals.

(Ord. passed 2-21-2012; Ord. passed 5-11-2015)

#### **§ 34.20 MONITORING.**

(A) The owner for a covered project shall require all construction contracts to comply with all provisions of this subchapter, and a copy of this subchapter shall be included with all contracts with contractors and subcontractors performing construction work on covered projects. This subchapter must be a contractual obligation in all contracts.

(B) All contractors and subcontractors performing construction work on covered projects shall submit to the Administrator weekly certified payroll records within five working days of the end of each payroll period. The records must show the person-hours on a craft-by-craft basis and identify the address, social security number, hiring date, ethnicity, gender and trade (journeyperson or apprentice) of all employees on the project. All reports must have an original signature and be signed by an authorized officer or employee of the company. Failure to comply with the provisions of this division (B) shall be deemed by the Administrator to be a violation of this subchapter and shall be subject to, and invoiced, liquidated damages on a weekly basis. Any willful misrepresentation contained in the information requested pursuant to this division (B) shall be deemed by the Administrator to be a violation of this subchapter and shall be subject to, and invoiced, liquidated damages on a weekly basis. The Administrator shall notify the City of Waterbury Department of Finance upon any violation of this subchapter. No portion of any invoice submitted by a contractor that is subject to liquidated damages shall be paid by the city until such time as all liquidated damages relating to that invoice have been paid to the city.

(C) Unless prohibited by federal, state or local law, all records in the city's possession shall be available for public inspection.

(D) The Administrator shall review all information provided pursuant to division (B) hereof and submit monthly reports to the Liaison Committee and to the Board of Aldermen summarizing the information.

(Ord. passed 2-21-2012; Ord. passed 5-11-2015)

#### **§ 34.21 GOOD FAITH EFFORTS.**

(A) Contractors shall be deemed to have made good faith efforts if they demonstrate to the satisfaction of the Administrator that they have done all of the following:

(1) Utilize the first source referral program to help satisfy the hiring goal;

(2) Notify the public in the city of the employment opportunities available on covered projects. The notification shall comprise a notice in a newspaper of general circulation in the city of employment opportunities, written notice to construction unions, community organizations and city high schools concerning same, and any other notice required by the Administrator. Contractors shall maintain records of responses to the notices received thereby. All notices must state that all qualified applicants will receive consideration without regard to race, color, religion, sex or national origin. The notice required by this division shall include a statement that the notice is provided pursuant to this subchapter;

(3) Maintain a file on the job site of the names and addresses of each worker referred by the first source referral program. The file shall indicate what action was taken with respect to each referred person, and if the person was not hired, the reasons therefore; provided, however, that this subchapter shall not be construed as requiring contractors to hire any persons who do not satisfy applicable job qualifications;



(4) Participate in State of Connecticut-approved local employment training programs in the city's area, or develop on-the-job training opportunities and participate and assist in any association or employer-group training program relevant to the contractor's employment needs;

(5) Regularly review and evaluate their personnel and promotional opportunities, encourage city residents to seek opportunities and establish a program to monitor compliance with this subchapter; and

(6) Utilize other means of obtaining employees who are residents of the city that are reasonably calculated to assist with achieving the hiring goals.

(B) Contractors shall provide the city with any documentation requested by the Administrator in order to establish compliance with this subchapter.

(Ord. passed 2-21-2012)

#### **§ 34.22 CONTRACT REQUIREMENTS FOR COVERED SERVICES.**

(A) This city shall include provisions in Chapter 38, entitled "Centralized Procurement System," of the Code of Waterbury mandating that each contract for a covered project, as that term is defined herein, awarded pursuant to Chapter 38 include provisions addressing compliance with the provisions of this subchapter by the contractor or contractors thereunder and by any subcontractor or subcontractors performing work related to any such contract.

(B) Whenever provisions are included in a contract for a covered project pursuant to division (A) of this section, they shall include provisions establishing liquidated damages for the failure of any contractor or subcontractor to comply with the provisions of this subchapter on a weekly basis. The liquidated damages shall be based on an estimate of the cost the city would incur in having to provide alternative employment opportunities, or alternative economic assistance, to those residents who would have benefited by the city's investment in the covered project if they had been hired by the contractor or subcontractor had they complied with the provisions of this subchapter.

(C) Whenever provisions regarding liquidated damages are included in a contract for a covered project pursuant to division (B) of this section, that contract shall, if applicable, also include provisions addressing the following matters:

(1) Weekly compliance reviews by the Administrator for the purpose of assessing compliance with the provisions of this subchapter, or the lack thereof;

(2) Requiring a separate certification of compliance by the Administrator prior to the payment of any funds by the city under any such contract;

(3) The weekly assessment and invoicing of liquidated damages per noncompliant contractor or subcontractor while said contract is executory;

(4) No portion of any invoice submitted by a contractor that is subject to liquidated damages shall be paid by the city until such time as all liquidated damages relating to that invoice have been paid to the city.

(Ord. passed 2-21-2012; Ord. passed 5-11-2015)

**CITY OF WATERBURY  
BOARD OF EDUCATION**

**RFP #7221**

**ATTACHMENT G**

**PREVAILING WAGES SCHEDULE**

Minimum Rates and Classifications for  
Building Construction

ID#: 22-32591

Connecticut Department of Labor  
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Waterbury

Project Town: Waterbury

State#: Waterbury

FAP#: Waterbury

Project: School Security Video Surveillance &amp; Access Control System Expansions and Upgrades

(Waterbury)

| CLASSIFICATION  | Hourly Rate | Benefits  |
|---|-------------|-----------|
| 1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7** |             |           |
| 1c) Asbestos Worker/Heat and Frost Insulator  | 43.72       | 30.99     |
| 2) Boilermaker  | 38.34       | 26.01     |
| 3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons  | 37.75       | 34.62 + a |
| 3b) Tile Setter   | 37.1        | 30.52     |
| 3c) Terrazzo Mechanics and Marble Setters   | 31.69       | 22.35     |
| 3d) Tile, Marble & Terrazzo Finishers   | 31.07       | 24.23     |
| 3e) Plasterer   | 33.48       | 32.06     |
| -----LABORERS-----  |             |           |
| 4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.  | 31.5        | 23.25     |
| 4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).  | 31.75       | 23.25     |

Project: School Security Video Surveillance & Access Control System Expansions and Upgrades (Waterbury)

|   |       |                        |
|---|-------|------------------------|
| 4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).  | 32.0  | 23.25                  |
| 4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80. | 32.5  | 23.25                  |
| 4d) Group 5: Air track operator, sand blaster and hydraulic drills.   | 32.25 | 23.25                  |
| 4e) Group 6: Blasters, nuclear and toxic waste removal.   | 34.5  | 23.25                  |
| 4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).  | 32.5  | 23.25                  |
| 4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.  | 29.78 | 23.25                  |
| 4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.   | 29.24 | 23.25                  |
| 4i) Group 10: Traffic Control Signalman   | 18.0  | 23.25                  |
| 5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.   | 35.57 | 25.65                  |
| 5a) Millwrights   | 36.32 | 26.81                  |
| 6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)  | 40.4  | 30.07+3% of gross wage |
| 7a) Elevator Mechanic (Trade License required: R-1,2,5,6)   | 58.9  | 36.885+a+b             |
| -----LINE CONSTRUCTION-----   |       |                        |
| Groundman   | 26.5  | 6.5% + 9.00            |
| Linemen/Cable Splicer   | 48.19 | 6.5% + 22.00           |
| 8) Glazier (Trade License required: FG-1,2)   | 39.98 | 22.90 + a              |

|   |       |           |
|---|-------|-----------|
| 9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection | 38.17 | 38.02 + a |
|---|-------|-----------|

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----OPERATORS----

|  |       |           |
|--|-------|-----------|
| Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)   | 43.88 | 25.80 + a |
| Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)   | 43.53 | 25.80 + a |
| Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required) | 42.72 | 25.80 + a |
| Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).   | 42.3  | 25.80 + a |
| Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24  | 41.65 | 25.80 + a |
| Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.   | 41.65 | 25.80 + a |
| Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).  | 41.31 | 25.80 + a |
| Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24   | 40.94 | 25.80 + a |
| Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.  | 40.51 | 25.80 + a |
| Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).   | 40.04 | 25.80 + a |
| Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.  | 37.81 | 25.80 + a |
| Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.   | 37.81 | 25.80 + a |



|  |       |           |
|--|-------|-----------|
| Group 12: Wellpoint operator.  | 37.74 | 25.80 + a |
| Group 13: Compressor battery operator.   | 37.11 | 25.80 + a |
| Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).   | 35.87 | 25.80 + a |
| Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.                 | 35.43 | 25.80 + a |
| Group 16: Maintenance Engineer/Oiler.  | 34.72 | 25.80 + a |
| Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.                | 39.42 | 25.80 + a |
| Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).                | 36.77 | 25.80 + a |
| -----PAINTERS (Including Drywall Finishing)-----   |       |           |
| 10a) Brush and Roller  | 36.42 | 22.90     |
| 10b) Taping Only/Drywall Finishing   | 37.17 | 22.90     |
| 10c) Paperhanger and Red Label   | 36.92 | 22.90     |
| 10e) Blast and Spray   | 39.42 | 22.90     |
| 11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)                      | 45.83 | 33.50     |
| 12) Well Digger, Pile Testing Machine  | 37.26 | 24.05 + a |
| Roofer: Cole Tar Pitch   | 43.75 | 20.05 + a |
| Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing  | 42.25 | 20.05 + a |
| 15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)                          | 40.08 | 40.53     |
| 16) Pipefitter (Including HVAC work)<br>(Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9) | 45.83 | 33.50     |

-----TRUCK DRIVERS-----

|  |       |           |
|--|-------|-----------|
| 17a) 2 Axle  | 30.16 | 27.16 + a |
| 17b) 3 Axle, 2 Axle Ready Mix  | 30.27 | 27.16 + a |
| 17c) 3 Axle Ready Mix  | 30.33 | 27.16 + a |
| 17d) 4 Axle, Heavy Duty Trailer up to 40 tons  | 30.39 | 27.16 + a |
| 17e) 4 Axle Ready Mix  | 30.44 | 27.16 + a |
| 17f) Heavy Duty Trailer (40 Tons and Over)   | 30.66 | 27.16 + a |
| 17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids) | 30.44 | 27.16 + a |
| 18) Sprinkler Fitter (Trade License required: F-1,2,3,4)   | 47.55 | 26.60 + a |
| 19) Theatrical Stage Journeyman  | 25.76 | 7.34      |

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate*

*ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:*

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)*
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson*
- 3) Cranes (under 100 ton rated capacity)*

*Crane with 150 ft. boom (including jib) - \$1.50 extra*

*Crane with 200 ft. boom (including jib) - \$2.50 extra*

*Crane with 250 ft. boom (including jib) - \$5.00 extra*

*Crane with 300 ft. boom (including jib) - \$7.00 extra*

*Crane with 400 ft. boom (including jib) - \$10.00 extra*

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol). For those without internet access, please contact the division listed below.*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

Project: School Security Video Surveillance & Access Control System Expansions and Upgrades (Waterbury)

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**Important Information:**

For use with Building, Heavy/Highway, and Residential

Welders: Rate for craft to which welding is incidental.

\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate.

**ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:**

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson
- 3) Cranes (under 100 ton rated capacity)

**Crane with boom including jib, 150 feet - \$1.50 extra.**

**Crane with boom including jib, 200 feet - \$2.50 extra.**

**Crane with boom including jib, 250 feet - \$5.00 extra.**

**Crane with boom including jib, 300 feet - \$7.00 extra.**

**Crane with boom including jib, 400 feet - \$10.00 extra.**

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

- Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of one apprentice in a specific trade.

**Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work**

- The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.
- Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.
- The annual adjustments will be posted on the Department of Labor's Web page: [www.ctdol.state.ct.us](http://www.ctdol.state.ct.us).
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.
- All subsequent annual adjustments will be posted on our Web Site for contractor access.



**Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage.**

- All Persons who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.
- All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)
- Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

***Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.***



**STATE OF CONNECTICUT**  
**DEPARTMENT OF EMERGENCY SERVICES AND PUBLIC PROTECTION**  
**DIVISION OF EMERGENCY MANAGEMENT AND HOMELAND SECURITY**



**REVISED NOTICE OF GRANT AWARD**

**Purpose:** This document is the obligating contract between the Grantor and Grantee.

**Signatory:** DESPP/DEMHS Deputy Commissioner Regina Y. Rush-Kittle or designee.

**Authorizing Legislation:** The Department of Emergency Services and Public Protection hereby makes the following grant award in accordance with the Public Act 18-178 AN ACT AUTHORIZING AND ADJUSTING BONDS OF THE STATE FOR CAPITAL IMPROVEMENTS, TRANSPORTATION AND OTHER PURPOSE... and in accordance with the grant solicitation and the attached grant conditions or budgets if applicable.

| GRANTEE INFORMATION |  | GRANT INFORMATION        |                  | GRANTOR INFORMATION: |   |
|---------------------|--|--------------------------|------------------|----------------------|---|
| <b>Grantee:</b>     | Waterbury Public Schools                 | <b>DEMHS Grant #:</b>    | 018S151A         | <b>Grantor:</b>      | DESPP/DEMHS                                   |
| <b>Address:</b>     | 236 Grand Street<br>Waterbury, CT 06702- | <b>Funding Type:</b>     | State Bond Funds | <b>Unit:</b>         | Strategic Planning Comm.<br>Preparedness      |
| <b>FEIN:</b>        | 066001900                                | <b>Date of Award:</b>    | August 7, 2019   | <b>Address:</b>      | 1111 Country Club Rd.<br>Middletown, CT 06457 |
| <b>POC:</b>         | Mr. Darren Schwartz                      | <b>Revision:</b>         | 1                | <b>Prgrm Mgr:</b>    | Robert Drozynski                              |
|                     |  | <b>Date of Revision:</b> | January 12, 2021 | <b>Phone #:</b>      | (860) 685-8134                                |
|                     |  | <b>Start Date:</b>       | 1/1/2013         | <b>Email:</b>        | robert.drozynski@ct.gov                       |
|                     |  | <b>End Date:</b>         | 9/30/2022        |                      |   |

**FUNDING BREAKDOWN (Summary of Attached Budget)**

|                               |                |                       |              |
|-------------------------------|----------------|-----------------------|--------------|
| <b>Total Budget:</b>          | \$1,776,164.76 | <b>State Match:</b>   | \$ .00       |
| <b>Total State Funding:</b>   | \$1,408,321.04 | <b>Grantee Match:</b> | \$367,843.72 |
| <b>Total Federal Funding:</b> | \$ .00         | <b>Match %</b>        | 79.29%       |

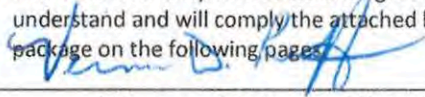
**SUMMARY DESCRIPTION OF FUNDING/JUSTIFICATION OF REVISION**

Through this accord, the Waterbury Public Schools shall use grant funding in the amount of **\$1,408,321.04** from the School Security Competitive Grant Program for approved costs related to school security infrastructure improvement. **Ext to 9/30/22**

**AUTHORIZATION OF AGREEMENT**

My signature below, for and on behalf of the above named grantee, indicates acceptance of the above referenced award and further certifies that:

1. I have the authority to execute this agreement on behalf of the grantee; and the grantee acknowledges that they have read, understand and will comply the attached budgets, general and Special Grant Conditions contained within this grant award package on the following pages.

By:  January 15, 2021  
(Signature of Authorized Officials) (Date)  
Dr. Verna D. Ruffin, Superintendent of Schools  
(Typed Name of Authorized Official)

**For The Department of Emergency Services and Public Protection**

By: \_\_\_\_\_ (Date)  
(Signature of Authorized Officials)  
DEPUTY COMMISSIONER, REGINA Y. RUSH-KITTLE  
(Typed Name of Authorized Official)

**CORE CT INFORMATION (FOR DESPP OFFICE USE)**

|                    |       |             |       |                      |         |        |          |         |                |
|--------------------|-------|-------------|-------|----------------------|---------|--------|----------|---------|----------------|
| <b>Contract #:</b> |       | <b>PO #</b> |       | <b>Receipt Date:</b> |         |        |          |         |                |
| Amount             | Fund  | Dept.       | SID   | Program              | Account | CH 1   | CH 2     | Bud Ref | Proj.          |
| \$1,408,321.04     | 12052 | DPS32161    | 43546 | 24003                | 55070   | 135936 | SSROUND4 |         | DPS_NonProject |



**STATE OF CONNECTICUT**  
**DEPARTMENT OF EMERGENCY SERVICES AND PUBLIC PROTECTION**  
*DIVISION OF EMERGENCY MANAGEMENT AND HOMELAND SECURITY*



**BUDGETARY CONDITIONS AND PROJECT BUDGET**

The attached budgets are approved for funding under the School Security Competitive Grant Program.

- B1. In accordance with guidelines set forth by the School Security Grant Competitive Grant Program Working Group (Authorized by Public Act 13-3 and subsequent amendments), funding may be transferred between line items however new line items cannot be created. Any budget changes require written notification and pre-approval by the designated DESPP Program Manager.
- B2. Funding transfers between schools are permitted on a case by case basis and require pre-approval by your designated program manager.
- B3. Notice of Grant Award Revisions are only required for changes in the total project amount and the period of performance.
- B4. The grantee should consult the most recent version of the SSCGP Reimbursement Manual for more specific reimbursement related information.
- B5. Prior to submitting the first reimbursment request 25% total dollar amount must be spent, subsequent reimbursements can occur at 25% or greater increments of funding. The grantee may submit up to four requests in total.

| Row Labels                        | Sum of Total Project   | Sum of State Share     | Sum of Local Match   |
|-----------------------------------|------------------------|------------------------|----------------------|
| <b>Waterbury</b>                  | <b>\$ 1,776,164.76</b> | <b>\$ 1,408,321.04</b> | <b>\$ 367,843.72</b> |
| Adult Education at Barnard School | \$ 45,680.00           | \$ 36,219.67           | \$ 9,460.33          |
| Bucks Hill Elementary School      | \$ 93,360.00           | \$ 74,025.14           | \$ 19,334.86         |
| Bunker Hill Elementary School     | \$ 23,360.00           | \$ 18,522.14           | \$ 4,837.86          |
| Chase Elementary School           | \$ 18,380.00           | \$ 14,573.50           | \$ 3,806.50          |
| Crosby High School                | \$ 219,866.93          | \$ 174,332.49          | \$ 45,534.44         |
| Enlightenment School              | \$ 54,980.00           | \$ 43,593.64           | \$ 11,386.36         |
| Generali Elementary School        | \$ 27,080.00           | \$ 21,471.73           | \$ 5,608.27          |
| Gilmartin Elementary School       | \$ 237,555.86          | \$ 188,358.04          | \$ 49,197.82         |
| Hopeville Elementary School       | \$ 23,360.00           | \$ 18,522.14           | \$ 4,837.86          |
| Maloney Magnet Elementary School  | \$ 141,394.08          | \$ 112,111.37          | \$ 29,282.71         |
| <b>Reed Elementary School</b>     | <b>\$ 197,680.24</b>   | <b>\$ 156,740.66</b>   | <b>\$ 40,939.58</b>  |
| Sprague Elementary School         | \$ 88,117.98           | \$ 69,868.75           | \$ 18,249.23         |
| Tinker Elementary School          | \$ 44,867.98           | \$ 35,575.82           | \$ 9,292.16          |
| Walsh Elementary School           | \$ 141,969.24          | \$ 112,567.41          | \$ 29,401.83         |
| Washington Elementary School      | \$ 23,360.00           | \$ 18,522.14           | \$ 4,837.86          |
| Wendell Cross Elementary School   | \$ 24,584.62           | \$ 19,493.15           | \$ 5,091.47          |
| Wilby High School                 | \$ 242,207.83          | \$ 192,046.59          | \$ 50,161.24         |
| Woodrow Wilson Elementary School  | \$ 128,360.00          | \$ 101,776.64          | \$ 26,583.36         |
| <b>Grand Total</b>                | <b>\$ 1,776,164.76</b> | <b>\$ 1,408,321.04</b> | <b>\$ 367,843.72</b> |

Please initial here to indicate that you have read and understand these conditions




# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.5

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve of an Agreement with Comcast Cable Communications Management, LLC, at no cost, for Internet Essential Plus/Comcast Voucher Program.

# **BOARD OF EDUCATION**

*Waterbury, Connecticut*

## **COMMITTEE ON FINANCE**

Item #4.6

April 21, 2022

To the Board of Education  
Waterbury, CT

Ladies and Gentlemen:

The Committee on Finance moves that the Waterbury Board of Education approve a Professional Services Agreement with Polar Electro, Inc. for Heart Rate Monitoring System Services.